GARMIN

GPSMAP 76

owner's
manual
&
reference
guide

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GPSMAP 76 Registration

Help us better support you by completing your on-line registration today!

Why should you register your GPSMAP 76?

- Notification of Product Updates
- Notification of New Products
- Lost or Stolen unit Tracking

Connect to our website (*www.garmin.com*) and look for the Product Registration link on the home page.

Thanks for choosing the GARMIN GPSMAP 76. If you have any questions or comments regarding the use of the GPSMAP 76 you can visit our website or contact our Customer Service Department M-F, 8:00-5:00 CST (except holidays) at 1-800-800-1020.

If you have previously registered a GARMIN product purchase using a mail-in registration card, we invite you to reregister that product using our NEW on-line system. Many services provided by our new product registration system are now being automated and reregistering your purchase ensures you the best possible support from GARMIN.

Registration

Warnings and Cautions

WARNING: If you choose to use the GPSMAP 76 in a vehicle, it is the sole responsibility of the owner/operator of the GPSMAP 76 to secure the GPS unit so that it will not cause damage or personal injury in the event of an accident. Do not mount the GPSMAP 76 over airbag panels or in a place where the driver or passengers are likely to have an impact with it in an accident or collision.

WARNING: If you choose to use the GPSMAP 76 in a vehicle, it is the sole responsibility of the operator of the vehicle to operate the vehicle in a safe manner, maintain full surveillance of all driving conditions at all times, and never become distracted by the GPSMAP 76 to the exclusion of safe operating practices. It is unsafe to operate the GPSMAP 76 while you are driving. Failure by the operator of a vehicle equipped with an GPSMAP 76 to pay full attention to operating the vehicle and road conditions while the vehicle is in motion could result in an accident or collision with property damage and personal injury.

CAUTION: IT IS THE USER'S RESPONSIBILITY TO USE THIS PRODUCT PRUDENTLY. THIS PRODUCT IS INTENDED TO BE USED ONLY AS A TRAVEL AID AND MUST NOT BE USED FOR ANY PURPOSE REQUIRING PRECISE MEASUREMENT OF DIRECTION, DISTANCE, LOCATION, OR TOPOGRAPHY.

CAUTION: The Global Positioning System (GPS) is operated by the government of the United States, which is solely responsible for its accuracy and maintenance. The system is subject to changes which could affect the accuracy and performance of all GPS equipment. Although the GPSMAP 76 is a precision electronic NAVigation AID (NAVAID), any NAVAID can be misused or misinterpreted and, therefore, become unsafe.

FCC Compliance Statement

The GPSMAP 76 complies with Part 15 of the FCC limits for Class B digital devices. This equipment generates, uses, and can radiate radio frequency energy and, if not installed or used in accordance with the instructions may cause harmful interference to radio communications.

There is no guarantee that interference will not occur in a particular instance. If this equipment does cause harmful interference to other equipment, try to correct the problem by relocating the equipment.

Consult an authorized GARMIN dealer or other qualified service technician if the problem cannot be corrected. Operation is subject to the following conditions: (1) This device cannot cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The GPSMAP 76 does not contain any user-serviceable parts. Repairs should be made only by an authorized GARMIN service center. Unauthorized repairs can void the warranty.

Introduction

Features

NOTE: You should always be prepared and capable of navigating without the GPSMAP 76. It is designed to compliment other forms of basic navigation, not entirely replace them.

The GPSMAP 76 is a 7.5 ounce, 12 channel, hand held GPS receiver with a built-in Quad Helix antenna. The GPSMAP 76 has nine Keys located on the front of the unit, that allow the user to quickly access all of the units functions. The GPSMAP 76 has a large 180 X 240 pixel, 4 level gray monochrome display for easy viewing

The GPSMAP 76 is a full function GPS with a built-in North American base map that includes Interstate and State Highways and Exit Information. Using MapSource™, GARMIN's map data software (not included), you could choose to have the GPSMAP 76 display a variety of different map information. We currently offer several mapping options including our; Metroguide™, Topo, Lights and Waterways,and Fishing Hot Spots data. Check your local dealer or our web site (www.garmin.com) for a complete listing of MapSource products.

GARMIN designed your GPSMAP 76 with the user in mind. The GPSMAP 76 is waterproof to IPX 7 standards, floats and is rugged enough to endure the most trying use and GARMIN's friendly user interface will allow you to be navigating with your GPS in no time. Your GPSMAP 76 can provide one more critical benefit, peace of mind. With your GPSMAP 76 you will know where you are, where you've been and where you're going. And since you'll always know the way back home, you can concentrate on what you set out to do, explore the great outdoors.

Thank you for choosing GARMIN!

Other features include:

Waypoints: 500 with name and graphic symbol.

Tracks: Automatic Track Log; 10 saved Tracks.

Routes: 50 Routes that let you navigate through a set of 50 waypoints.

Trip Computer: Trip Odometer, Stopped Time, Moving Average Speed, Moving Time, Overall Average Speed, Total Time, Max Speed and Odometer.

Tides: Displays tide information graphically.

Sun and Moon: Sunrise, Sunset, Moonrise, Moonset, Position in Sky, and Moon Phase.

Hunt and Fish: Times

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"How To" Index

The list to the right is provided to help you quickly find some of the more important procedures you will use on your new GPSMAP 76.

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Turn the unit on or off	10, 12
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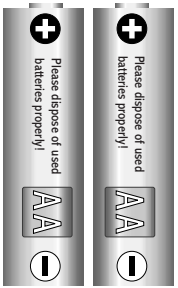
GPSMAP 76

Internal Antenna
Interface Keys
180 x 240 Four Level
Gray, Backlight Display
ZOOM
MOB
IN
OUT
NAV
PAGE
MENU
QUIT
ENTER
GPSmap 76
GARMIN
External Antenna Connection
Battery Compartment
External Data/Auxilary
Power Port

Installing the Batteries



Remove the batteries from your GPSMAP 76 if you don't expect to use it for several months. Be sure to observe the proper polarity when inserting the batteries. Follow the battery manufacturer's instructions on the proper care and handling of the batteries.

Installing the batteries

Installing the batteries:

1. Remove the Battery Cover by turning the D-ring 1/4 turn counter clockwise and pulling the cover loose.
2. Check the battery polarity with the molded diagram in the battery compartment and install the batteries inserting the end toward the spring first.
3. Re-install the Battery Cover by reversing step 1.

Installing the Lanyard

To install the Lanyard:

1. Place the loop of the Lanyard through the slot opening at the bottom of the GPSMAP 76.
2. Route the strap through the loop and pull tight.

Interface Keys

IN — The Zoom **IN** Key is used to decrease the map scale. When you decrease the map scale, you will view a smaller area on the map with greater detail.

OUT — The Zoom **OUT** Key is used to increase the map scale. When you increase the map scale, you will view a larger area on the map with less detail.

NAV / MOB — The **NAV** Key is used to begin or stop navigation. If the **NAV** Key is pressed and held down, the GPS stores the current location (a man overboard point) and gives you the opportunity to begin immediate navigation to that point.

PAGE — The **PAGE** Key, will cycle you through the five main display pages in sequence. The **PAGE** Key will end an operation in progress and return you to the main page.

— The **POWER** Key is used to turn the unit on and off. To turn the unit off press the **POWER** Key and hold it. The **POWER** Key is also used to display the adjustment window for the backlight and contrast adjustment. To activate the backlight/contrast adjustment window, with the unit on, press and release the **POWER** Key.

MENU — The **MENU** Key is used to display page option menus. If pressed twice, the Main Menu will be displayed.

QUIT — The **QUIT** Key, will cycle you through the five main display pages in reverse sequence. The **QUIT** Key will end an operation in progress and display the previous page.

ENTER — The **ENTER** Key is used to activate a data field or confirm a selection. If the **ENTER** Key is pressed and held, the GPSMAP 76 will store the current location and display the Mark Waypoint page.

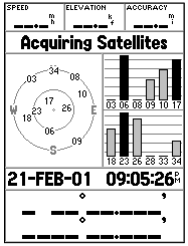
ROCKER — The **ROCKER** Key, located in the center of the keypad, is used to control the Up/Down and Left/Right movement of the cursor on the display pages and during data entry.

Main Pages

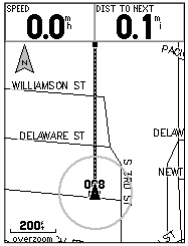
This exercise will provide you with the knowledge and skill to navigate the pages and menus of your GPSMAP 76 with confidence.

As we progress through this Owner's Manual you will often be directed to press a specified Interface Key or highlight a field. When you are directed to press a Key, you should press, then release the Key. If the Key needs to be held down for a period of time, the instruction will tell you. The position of the highlight is controlled by the **ROCKER** Key. When a field is highlighted, a dark strip will encompass the field.

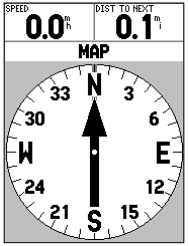
Let's start by taking a look at the five main display pages. They are the GPS Information Page, Map Page, Pointer Page, Highway Page and the Active Route Page. You can cycle through these pages by pressing either the **PAGE** or **QUIT** Key. When the GPSMAP 76 is turned on a Welcome Page will be displayed, followed by an Information Page and a Warning Page. Acknowledge each of these pages by pressing the **PAGE** Key while they are displayed. The GPS Information Page will now be displayed.



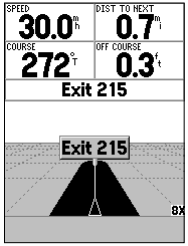
GPS Information Page



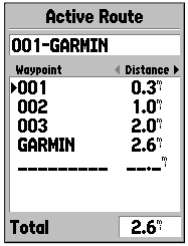
Map Page



Pointer Page

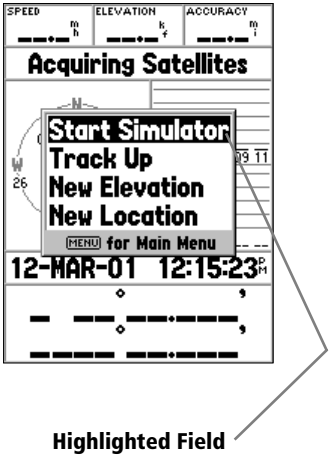


Highway Page



Active Route Page

Using the Built-in Simulator



While learning the basic operation of the GPSMAP 76, let's put the unit into Simulator Mode. The Simulator Mode is great for practicing with the unit while inside and satellite signals are not available. When the GPSMAP 76 is in Simulator Mode, the GPS receiver is turned off (this will help conserve battery power) and the unit cannot be used for actual navigation.

NOTE: Do not try to navigate using the Simulator Mode. While in the Simulator Mode, the GPS receiver is turned off. Any Satellite Signal Strength Indicators displayed are only simulations and do not indicate the strength of actual satellite signals.

Activating the Simulator Mode

Press the **POWER** Key to turn the unit on. The Welcome Page will be displayed, press the **PAGE** Key twice to display the GPS Information Page.

Putting the GPSMAP 76 in Simulator Mode:

1. With the GPS Information Page displayed press the **MENU** Key.
2. Using the **ROCKER** Key, highlight 'Start Simulator' then press the **ENTER** Key to accept your selection.

When the Simulator Mode is active, the message 'Simulating GPS' will be displayed along the top of the GPS Information Page.

Using the Interface Keys

The Interface Keys are your link with the GPSMAP 76. Let's take a few minutes and see what some of the Interface Keys are used for.

With the GPS Information Page displayed, press the **PAGE** Key several times. Notice that each time you press the **PAGE** Key the next main page will be displayed. Do the same with the **QUIT** Key. Notice the **QUIT** Key acts the same as the **PAGE** Key except the pages are displayed in a reverse sequence. Press the **PAGE** Key until the Map Page is displayed.

Each main page has an Options Menu. This Option Menu contains the setup options, and/or functions that apply to that page.

To display the Options Menu:

1. Press the **MENU** Key.

Selecting an item on the Options Menu:

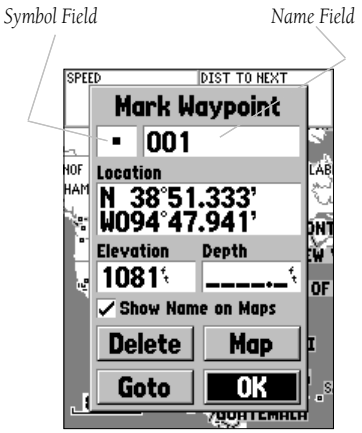
1. Using the **ROCKER** Key, highlight 'Setup Map'.
2. Press **ENTER**.

Many of the Option and Setup menus in the GPSMAP 76 are arranged in a 'Tab' layout. Use the Left /Right **ROCKER** Key to move from Tab to Tab.

We will look at the options in depth in the Reference Section of this manual. For now press either the **PAGE** or **QUIT** Key. Notice that either of these Keys stops the current function and returns you to the main page. This is good to know as you are learning how to use this unit. If you find that you are lost, or if you start a function that you really did not want, just press the **PAGE** or **QUIT** Key.

Interface Keys

Entering Data



Mark Waypoint Page

There will be many times that you may need to enter data. An example is naming a waypoint. The **ROCKER** Key is used to navigate through menu items and to enter data.

Let's combine a couple of lessons. We will create a new waypoint, enter a waypoint name, and assign a symbol to the waypoint.

The term 'Waypoint' may be new to you. You will find the term Waypoint is used frequently when talking about navigation. A Waypoint is a position stored in the unit's memory. Waypoints are used for direct navigation or to build a Route.

Creating or 'Marking' a waypoint with the GPSMAP 76 is easy. The unit has to be turned on and receiving at least three satellites (or simulating navigation) to mark a waypoint.

Marking a waypoint:

1. Press and hold the **ENTER** Key.

When you held the **ENTER** Key the GPSMAP 76 captured it's current position, and displayed the Mark Waypoint Page. You will notice that the unit assigned a square as the default symbol and a number as the default name. The 'OK' Button is highlighted, pressing the **ENTER** Key will store the new waypoint using the default settings for the symbol and name, but let's change them to something more meaningful.

Changing the symbol:

1. Using the **ROCKER** Key, highlight the Symbol Field, then press **ENTER**.
2. Using the **ROCKER** Key, highlight the 'Scenic Area' symbol, then press **ENTER**.

Entering Data

Changing the name:

1. Press the **ROCKER** Key right to highlight the Name Field then press the **ENTER** Key.

The Name Field will become active and the first zero will be highlighted. Notice that there are now ten placeholders for alpha-numeric characters displayed.

1. Press the **ROCKER** Key to the left to clear the field.
2. Press the **ROCKER** Key up, scroll through the alpha-numeric list until the letter 'C' is selected.
3. Press the **ROCKER** Key right to move to the next placeholder.
4. Press the **ROCKER** Key down, scroll through the alpha-numeric list until the letter 'R' is selected.

You should be starting to get the feel of it. Continue entering letters until you have spelled the word CREEK.

5. With the letter 'K' highlighted, press the **ENTER** Key to accept the name.

When you have finished renaming the waypoint you will need to store it in the units' memory.

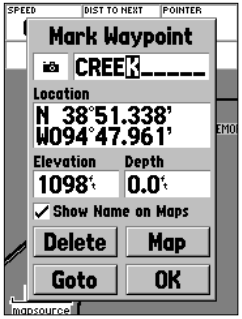
To store the waypoint:

1. Using the **ROCKER** Key, highlight the 'OK' Button and press the **ENTER** Key.

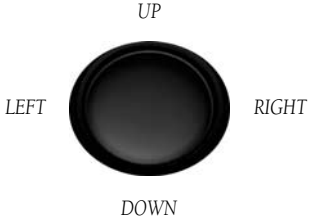
These are the same steps that you will use to enter names and change numbers and select options in all of the fields in the GPSMAP 76.

Here are a couple of tips:

1. If you press and hold the **ROCKER** Key while scrolling through the alpha-numeric list, it will move quickly.
2. You can scroll through the alpha-numeric list in either direction.
3. Don't press the **ENTER** Key until you have finished entering the data. Remember, use the **ROCKER** Key to move to the next placeholder.



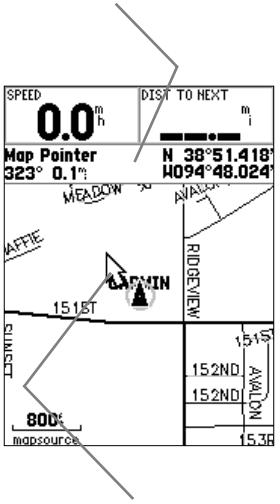
Entering a name



Rocker Key Directions

Basic Navigation

Bearing and Distance from Pointer to current GPS location.



Map Pointer

You should now have enough knowledge to navigate through the main pages, Option Menus and enter data into your GPSMAP 76. Now let's learn how to navigate!

The main use of a GPS is to be able to navigate to a known position. We have already created a waypoint and named it CREEK. Let's create another waypoint on the Map Page using a different method, the Map Pointer.

Press the **PAGE** Key until the Map Page is displayed. Press the **IN** Key several times until the Zoom Scale in the lower left corner of the Map Page reads 800ft. The current GPS location is indicated by the triangle in the center of the map.

To display the Map Pointer:

1. Press the **ROCKER** Key any direction.

Using the **ROCKER** Key you can pan the Map Pointer around the map. As you move around the map, the direction and distance from the Map Pointer to the current GPS location is displayed along the top of the map.

To mark a waypoint using the Map Pointer:

1. With the Map Pointer at a location on the map about one mile from your current location, and not on a road or map feature, press the **ENTER** Key.

The location of the Map Pointer will be captured and the New Waypoint Page will be displayed. Change the waypoint name to MAP 1, and store the waypoint in memory by highlighting the 'OK' Button then pressing the **ENTER** Key. Press the **QUIT** Key to hide the Map Pointer and center the map on the current GPS location.

Now that we have a destination, navigating to it is just a step away.

Basic Navigation

Going to a waypoint:

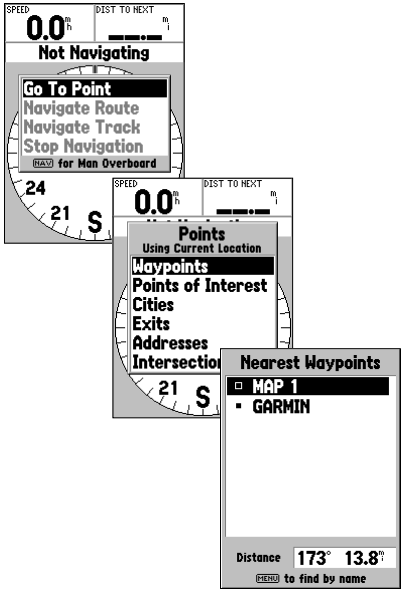
1. Press the **NAV** Key.
2. Highlight 'Go To Point' then press the **ENTER** Key.
3. Highlight 'Waypoints' then press the **ENTER** Key.
4. Highlight 'MAP 1' then press the **ENTER** Key.
5. Highlight the Goto Button then press the **ENTER** Key.

The GPSMAP 76 is now navigating to the waypoint MAP 1.

For a GPS to navigate it has to be moving, fortunately you can simulate movement in the GPSMAP 76. Press the **PAGE** Key until the Pointer Page is displayed. Along the top of the Pointer Page there are several data fields, the Speed Field is located in the upper left corner. To simulate movement, press the **ROCKER** Key up one time. This will set a speed of 10 miles per hour. If you continue to press or hold the **ROCKER** Key, the speed will increase in 10 mph increments. For our purpose, 10 mph is fine.

On the Pointer Page are a Pointer and Compass Ring. The Pointer will always point toward your destination (Bearing) while the Compass Ring reflects the direction that you are traveling (Track). In short, when you are headed directly toward your destination, the Pointer will be pointed toward the top of the display, aligned with the vertical line on the Compass Ring. If you are no longer heading toward your destination, the Pointer will turn away from the top of the display to point toward your destination. To get headed toward your destination again, turn until the Pointer is realigned with the vertical line in the Compass Ring and pointed toward the top of the display.

The simulator will let you change the Track so that you can see what will happen. Press the **ROCKER** Key to the right until your Track has changed about 40°. This will simulate a direction change to the right. The Pointer should now be pointed toward the left of the display indicating that you need to turn to the left to head toward the waypoint. This is exactly what will happen during actual navigation.



Selecting a waypoint for navigation

Initializing the GPSMAP 76

Turning off the Simulator

Press the **ROCKER** Key to the left simulating a left turn, until the Pointer is realigned with the vertical line in the Compass Ring. You are now headed toward the waypoint.

Now that we have now gone through the basic operation of the unit using the simulator, it is time to do some actual navigation!

To turn off the simulator:

1. With the GPS Information Page displayed, press the **MENU** Key.
2. Select 'Stop Simulator' then press the **ENTER** Key.

Before the GPSMAP 76 can be used for navigation the receiver has to be initialized. This process is automatic and will only take a few minutes.

Take the unit outside where it will have an unobstructed view of the sky and turn it on. The unit will search for satellite signals and begin to gather, and store the information that it needs to become operational. This process should take no more than five minutes. When the unit is operational the message '3D GPS Location' will be displayed on the GPS Information Page.

If for some reason the unit is not able to gather the necessary satellite information an options page will be displayed. Select 'New Location' then 'Automatic' and allow the unit to continue initializing. This selection will force the unit to search for satellites. It may take a little longer for the unit to become operational using this method.

Starting to navigate

With the unit on and displaying '3D GPS Location' on the GPS Information Page, mark a waypoint at your current location. Name this waypoint 'HOME', assign the 'Residence' Symbol and store the waypoint.

Before we take off walking lets clear the Track Log. The Track Log is the bread crumb trail left on the Map Page and Highway Page.

To clear the Track Log:

1 Press the **MENU** Key twice to display the Main Menu.

2. Highlight Tracks then press the **ENTER** Key.
3. Highlight the 'Clear' Button then press the **ENTER** Key.
4. Highlight the 'Yes' Button then press the **ENTER** Key.
4. Press the **PAGE** Key until the Map Page is displayed.

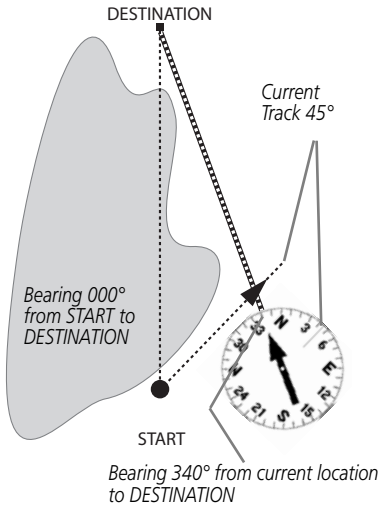
Begin walking holding the GPSMAP 76 in front of you with the top of the unit pointed toward the sky. As you move, you will see that the unit leaves a bread crumb trail on the map indicating where you have been. Walk at least a two minutes in one direction and then make either a right or left turn. Continue walking in this new direction for approximately another two minutes.

Let's start the trip back. Remember that GPS provides you with direct, straight line navigation. It is not always possible to navigate using the most direct route, don't worry, the GPSMAP 76 will continuously update your Track and Bearing, always pointing out the shortest route to your destination.

To begin navigation:

1. Press the **NAV** Key.
2. Select 'Go To Point' then press the **ENTER** Key.
3. Select 'Waypoints' then press the **ENTER** Key.
4. Select 'HOME' then press the **ENTER** Key.
5. With the 'Goto' Button highlighted, press **ENTER**.

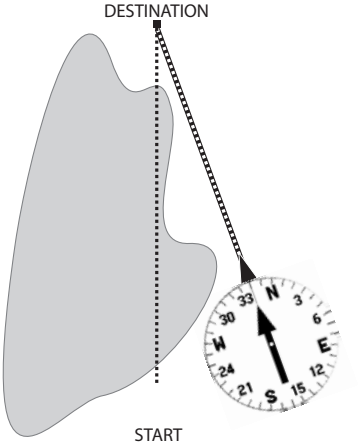
Basic Navigation



The GPS provides a straight line, direct navigation course to your destination. Since it is not always possible to follow a straight line from start to finish, as you move, the Pointer will always point toward your destination and the Compass Ring will always show your current track.

Continued on next page

Basic Navigation



When you are able to turn toward the destination, follow the Pointer until it points toward the top of the display and aligns with the line in the Compass Ring. When the Pointer and Line are aligned, your Track and Bearing will be equal and you will be headed toward your destination. When you are near your destination, a message 'Arriving at Destination' will be displayed.

Start walking, as you move you will see that the Pointer is pointed at your destination. As soon as you are able, turn toward the Pointer until it is aligned with the vertical line in the Compass Ring. Continue walking, as you approach your HOME waypoint a message will be displayed alerting you that you have arrived.

Congratulations, you should have enough basic knowledge of your GPSMAP 76 to begin navigating on your own. Be safe; remember that while the GPS is very reliable, you should always have a backup means of navigation.

The Reference Section of this manual will describe the Main Display Pages and their options in detail. The Getting Started section described the process of navigating the Main Display Pages and the Option Menus. While this section will provide some direction on how to select an item, its main intention is to describe each Main Page and it's Option Menu in detail.

Initializing the GPS Receiver

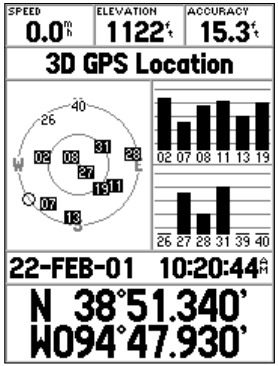
Before the GPSMAP 76 can be used for navigation, the GPS receiver must be initialized. The GPS receiver should only need to be initialized the first time the unit is used, or if it has been stored several months.

The GPSMAP 76 stores orbital data for each satellite in an Almanac. The orbital data is supplied in the satellite signals. Each time the unit is used, the Almanac is updated. This is how the GPSMAP 76 knows which satellites to search for. If you do not use your GPS for several months, or move the unit several hundred miles between uses, the Almanac can become "cold", that is to say that the orbital information is no longer valid. If the Almanac is "cold", your unit may have trouble locking on to satellite signals. If the unit is unable to receive enough satellite signals to determine its Location', it will display an options menu.

Initializing the GPS Receiver:

1. With fresh batteries installed, take the unit outside where a clear 360° view of the sky can be obtained.
2. Turn the unit on and hold it in front of you with the top of the unit tilted upward. Follow the screen prompts, pressing **PAGE** to display the GPS Information Page.
3. The initialization process is automatic. It should take the GPSMAP 76 no longer than five minutes to acquire enough satellite signals to become operational. When the unit is able to navigate, it will display either 2D GPS Location or 3D GPS Location in the Receiver Status Field.

Initializing the GPS Receiver



Ready to Navigate

Initializing the GPS Receiver

Initialization Options

Initialization Options

If the GPSMAP 76 is unable to determine its location', an options menu will be displayed. Depending on the situation, select an option to help the unit acquire satellites. To select an option, place the highlight over the option then press **ENTER**.

Start Simulator — The Simulator can be used when you are indoors and the GPS is unable to locate satellites. When you select 'Simulator', the GPS receiver is turned off saving battery power.

New Location — If you have moved the unit to another state, province, or country, and you are having trouble locking onto satellite signals select 'New Location'.

When you select 'New Location', another menu will be displayed. This menu contains the options 'Automatic' or 'Use Map'. If you select 'Automatic' the unit will switch to the AutoLocate mode and begin searching for satellites. If you select 'Use Map' you can use the Pointer on the Map Page to select your approximate location and the unit will continue to acquire satellites normally. 'Automatic' may take longer to acquire satellites.

Stored w/o Batteries — If you have stored the unit without batteries the date stored in the GPS may be incorrect. To check the date, highlight 'Stored w/o Batteries' and verify the date displayed. If the date is incorrect select 'Stored w/o Batteries to search for satellites.

Continue Acquiring — Select this option if you are in an area where the satellite signals are being temporarily blocked.

GPS Information Page

The GPS Information Page displays your speed, elevation, the estimated accuracy, receiver status, satellite locations, satellite signal strength, the date, time and the GPS receiver's current location.

Speed, Elevation and Estimated Accuracy

When the GPS is receiving at least three satellite signals, it will provide you with the current GPS Speed, and the estimated Accuracy of the GPS Location. The GPS must be receiving at least four satellite signals to report the Elevation.

Current GPS Receiver status

The current status of the GPS receiver will always be displayed.

Autolocate — Forces the receiver to search for each satellite individually.

Acquiring Satellites — The receiver will begin in this mode each time the unit is turned on. The GPS receiver will remain in this mode until it has acquired at least 3 satellite signals.

2D GPS Location — Indicates that the receiver is only using three satellite signals. When a 2D GPS Location is achieved, the GPS will display your current position but is incapable of providing an altitude reading.

3D GPS Location — Indicates the receiver is currently using at least four satellite signals and is capable of providing your current position and altitude.

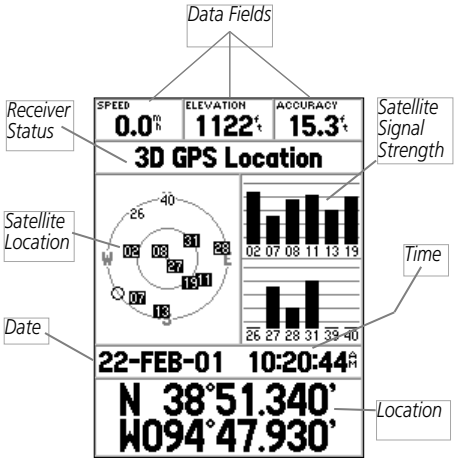
2D Differential Location — Indicates the receiver is using DGPS or WAAS differential data on three satellites.

3D Differential Location — Indicates the receiver is using DGPS or WAAS differential data on at least four satellites.

Lost Satellite Reception — Indicates that the GPS receiver has lost satellite reception.

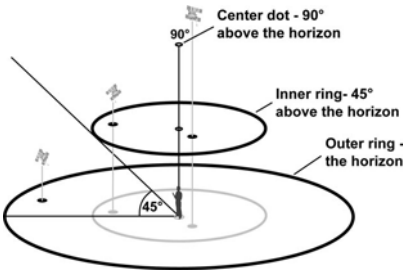
Simulating GPS — Indicates the GPSMAP 76 is running in Simulator Mode and the GPS receiver is turned off. It is important to remember when you are using the Simulator, the GPSMAP 76 can not be used for actual navigation.

GPS Information Page



GPS Information Page

GPS Information Page



Satellite Sky VIew

Satellite Location

The location of each available satellite is displayed over two location rings. The outer ring represents the horizon, the inner ring represents 45° above the horizon and the center represents directly overhead. When the unit is using a satellite for navigation, the satellite number will become highlighted on the location rings. The unit can be set to display satellite location with North, or your current track toward the top of the display.

Satellite Strength Indicator Bars

The Satellite Strength Indicator Bars not only show the strength of the signal being received, they also show the status of the signal. The bars will be either shaded with a light grey, or filled with solid black. If the bar is grey, it means that the GPS is receiving a signal from the satellite and is in the process of storing orbital data provided in the GPS signal. When the bar turns solid black, the GPS is using the satellite signal for navigation. A "D" in or above the bar means that differential corrections are being applied to that satellite.

Date, Time and Current Location

The GPS gets date and time information from the satellites. The satellites are equipped with an atomic clock that is very accurate. Since the GPS clock is derived from timing information sent from the satellite, the GPS clock is also very accurate.

When the GPS receiver has achieved a 2D or 3D GPS Location, the current location will be displayed in the selected Location Format.

GPS Information Page

GPS Information Page Options Menu

To activate the Options Menu from the GPS Information Page, press the **MENU** Key. To select an option, highlight the desired selection then press **ENTER**.

Start/Stop Simulator — This option is used to Start or Stop the Simulator.

Track Up/North Up — This option determines if the satellites are displayed with the rings oriented with North toward the top of the display or your current track toward the top of the display.

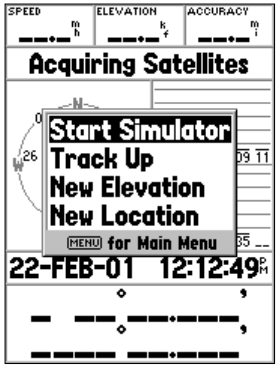
New Elevation — This option can be used to enter a different elevation. If the GPS has a 2D GPS Location, entering a known elevation can increase the GPS accuracy.

New Location — if you have moved the unit to another state, province, or country, and you are having trouble locking onto satellite signals select 'New Location'.

When you select 'New Location', an options menu will be displayed. This menu contains the options 'Automatic' or 'Use Map'. If you select 'Automatic' the unit will switch to AutoLocate and begin searching for satellites. This method can take up to five minutes for the unit to begin navigation.

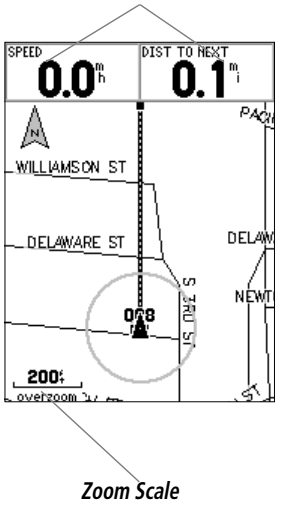
If you select 'Use Map' you can use the Pointer on the Map Page to select your approximate location and the unit will continue to acquire satellites normally using the almanac for satellite reference. Using this method, the unit does not need to reiniitalize and should receive satellite signals quickly.

If the unit is in the 'Simulator' mode, the 'Use Map' feature will allow you to move the simulated current location.



Satellite Page Options

Map Page



Map Page

The GPSMAP 76 comes with a built-in basemap of North America that includes a database of Cities, Interstate, State and County Highways, Exit information, Lake and River outlines and Railway Lines. The standard basemap can be enhanced using GARMIN's MapSource products.

Changing the Zoom Scale

You can change the Zoom Scale on the Map Page allowing you to either view a smaller area in greater detail or a larger area with less detail. As referred to in this manual, when you decrease the Zoom Scale you will view a smaller area with greater detail. The current Zoom Scale setting is displayed in the lower left corner of the Map Page. If 'Overzoom' is displayed under the scale, no further map information is available.

To change the Zoom Scale:

1. Press the IN Key to decrease the Zoom Scale.
2. Press the OUT Key to increase the Zoom Scale.

Map Page Options

To access the Map Page Options, with the Map Page displayed, press the **MENU** Key. To select an option from the Menu, highlight the desired selection then press **ENTER**.

Full Screen Map — This option hides the data fields and expands the map to include the entire display. When 'Full Screen Map' is selected the option will change to 'Show Data Fields'.

Measure Distance — This option will allow you to measure the distance between two points. As you move the Map Pointer, the Distance, Bearing and Location of the Pointer are displayed at the top of the map. To measure the distance between to map points, press ENTER to set a reference, then move the Map Pointer to the other location. The Bearing, and Distance are displayed below the data fields.

Show Next Street — This option adds a window below the Data Fields that will display the name of the next cross street. This will only function if 'Lock to Road' is 'On' (see Setup Map — 'Other'Tab on page 33) and MapSource Metroguide or City Navigator data is loaded in the unit.

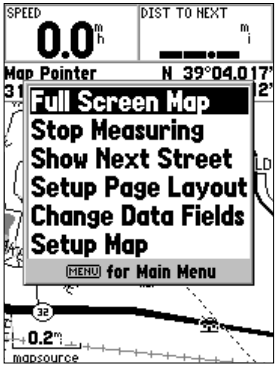
Setup Page Layout — This option allows you to select the number of data fields rows and the size of text used in the fields. You have the option of displaying, None, Small (1Row), Small (2 Rows), Small (3 Rows), Medium (1 Row), Medium (2 Rows), Medium (3 Rows), Large (1 Row), or Large (2 Rows). To select an option, highlight the desired selection then press **ENTER**. The new configuration will be displayed on the map.

Change Data Fields — This option allow you to select the type of data that you want displayed in the data fields. To change a data type, place the highlight over the desired data field, then press **ENTER**. Using the **ROCKER**, scroll through the available selections. With the data type highlighted, press **ENTER** to accept the selection.

Setup Map — This option contains the Map Page Setup features. The features are arranged on a tab menu making it easy to locate the different setup items.

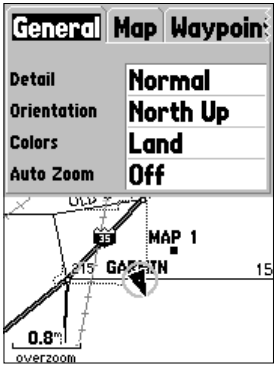
The 'Map', 'Waypoint', 'Point', 'Line', 'Area', 'Topo', 'City', 'Road', and 'Other' Tabs have setting for 'Text', 'Zoom' or both. Please read the description of these settings to understand how they affect the display characteristics of the options on the Map Page.

- *Text Setting —* The 'Text' setting allows you to determine the size of text used when displaying a name or label for an item on the Map Page. There are four options for the 'Text' setting, Off, Small, Med, and Large. If you select 'Off', the item will be displayed on the map without a name or label. If you select 'Small', 'Med' or 'Large', the name, the item will be displayed with a name or label in the text size selected.



Map Page Options

Map Page Options



Setup Map — 'General' Tab

• *Zoom Setting —* This setting determines when items will be displayed on the map. You have the option of selecting 'Off', 'Auto' or a 'Zoom' Scale that coincides with the Zoom Scales for the map.

If you select 'Off', the items for that option will not be displayed on the Map Page. If you select 'Auto', the GPSMAP 76 will automatically determine the zoom level at which to display the selected items. If you select a scale setting, the items will be displayed on the map only when the Map Zoom Scale is at or less than the selected scale .

As an example, if you select 500ft as 'Zoom' Scale setting, the selected items will only be displayed when the Map Zoom Scale is at 500ft or less.

Setup Map — 'General' Tab

The 'General' Tab contains the settings for Detail, Orientation, Colors, and Auto Zoom. Below is a description of each feature. To change a setting, highlight the appropriate field then press **ENTER**. Make your selection, then press **ENTER** to accept the new selection.

Detail — Settings: Most, More, Normal, Less, and Least. The Detail settings allow you to control the amount of map data displayed on the unit. If you select a setting with high detail, the screen redraw times will be slower.

Orientation — Settings: North Up, Track Up, and Course Up. This options allows you to determine how the map is displayed. If 'North Up' is selected, North will always be at the top of the display. If 'Track Up' is selected, your current track will always be toward the top of the display. If 'Course Up' is selected, the active course line will always be toward the top of the display. If you have 'Course Up' selected and do not have an active course, your current track will be toward the top of the display.

Map Page Options

Colors — This option gives you the ability to configure the map to display either land or water as white. If you select 'Land' the land portion of the display will be lighter in color than the water. If you select 'Water' the water portion of the display will be lighter in color than the land.

Auto Zoom — This option allows you to have the map automatically zoom in on a waypoint as you approach it.

Setup Map — 'Map' Tab

The 'Map' Tab contains settings for the Basemap, MapSource, Lat Lon Grids, and Grid Labels. To change a setting, highlight the appropriate field then press **ENTER**. Make your new selection then press **ENTER** to accept the selection.

Basemap — This option allow you to turn the Basemap data 'On' or 'Off'. If you select 'Off', the Basemap will no longer be displayed.

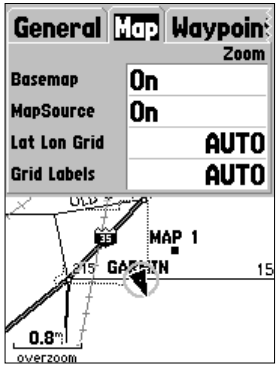
MapSource — This option is only available if Mapsource™ CD data has been loaded into the unit. If MapSource data is available, you can choose whether or not to display the data on the map by selecting either 'On' or 'Off'. If you select 'Off', the MapSource data will not be displayed on the Map Page.

Lat Lon Grid — Lat Lon Grids will be displayed in smaller increments as the Zoom Level on the Map Page is decreased. The 'Zoom' setting for this option determines when the grids will begin displaying on the Map Page.

If you select 'Auto', and have the Basemap or MapSource options set to 'ON', the unit will not display a Lat Lon Grid.

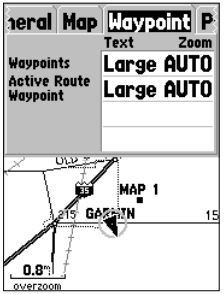
Grid Labels — This option allows you to display the coordinates on the grid.

You must have the 'Lat Lon Grid' displayed for 'Grid Labels' to be displayed. If you select 'Auto', and have the Basemap or MapSource options set to 'ON', the unit will not display Grid Labels.

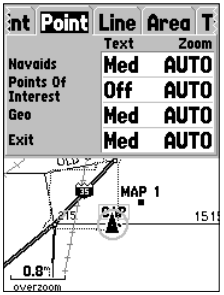


Setup Map — 'Map' Tab

Map Page Options



Setup Map — 'Waypoint' Tab



Setup Map — 'Point' Tab

Setup Map — 'Waypoint' Tab

The 'Waypoint ' Tab contains the Waypoint, and Active Route Waypoint option settings. Each of the options has a 'Text' and 'Zoom' setting. To change a setting, highlight the appropriate field then press **ENTER**. Make your new selection, then press **ENTER** to accept the selection.

Waypoints — This option sets the display parameters for all waypoints.

Active Route Waypoint — This option sets the display parameters for waypoints that are in an Active Route. As an example, if you have selected 'Small' as the text option for all waypoints, but selected 'Large' as the setting for Active Route Waypoints, the waypoints included in an Active Route will be displayed with large text on the Map Page.

Setup Map — 'Point' Tab

The 'Point' Tab contains the Navaids, Points of Interest, Geo, and Exit option settings. Each of the options has a 'Text' and 'Zoom' setting. To change a setting, highlight the appropriate field then press **ENTER**. Make your new selection, then press **ENTER** to accept the selection.

Navaids — are items displayed on the Map that aid navigation. Navaids can be landmarks, milemarkers, hazards, light houses, buoys etc.

Points of Interest — include general business listings such as restaurants, hotels, gas stations, etc..

Geo — include points such as schools, cemeteries, churches, towers, glaciers, parks, etc.

Exits — includes exit information for the US and Canada.

Map Page Options

Setup Map — 'Line' Tab

The 'Line' Tab contains the 'Zoom' scale settings for Track Log, Saved Tracks, Active Route, and a 'Off/On setting for the Bearing Line. To change a setting, highlight the appropriate field then press **ENTER**. Make your new selection, then press **ENTER** to accept the selection.

Track Log — the Track Log is the bread crumb trail that is left behind as your position changes on the Map Page.

Saved Tracks — are Track Logs that have been saved in the units memory.

Navigation Lines — controls the display of the Route Line and Bearing Line.

Bearing Line — If set to 'On', the Bearing Line will show the bearing from your current location to the active waypoint. This will show the shortest path to the waypoint. When the Bearing Line is on the Course Line (original course) will still be displayed.

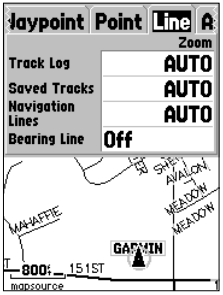
Setup Map — 'Area' Tab

The 'Area' Tab contains the 'Text' and 'Zoom' settings for River/Lakes, Parks, Other, and Metro. To change a setting, highlight the field then press **ENTER**. Make your new selection, then press **ENTER** to accept the selection.

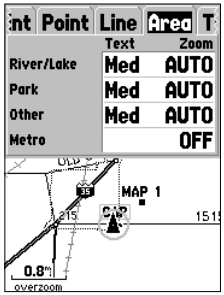
River/Lake — Rivers and Lakes will appear shaded on the map.

Park — Area Parks will appear as a shaded area.

Other — Geographical areas such as shopping centers, university campuses will appear as a shaded area.

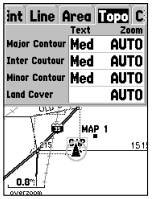


Setup Map — 'Line' Tab

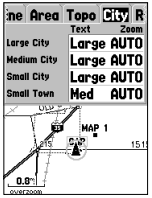


Setup Map — 'Area' Tab

Map Page Options



Setup Map — 'Topo' Tab



Setup Map — 'City' Tab

Setup Map — 'Road' Tab

Metro — Metropolitan areas will appear as a shaded area.

Setup Map — 'Topo' Tab

The 'Topo' Tab contains the 'Text' and 'Zoom' settings for Major Contour, Intermediate Contour, and Minor Contour Lines. The Land Cover option has a 'Zoom' setting. To change a setting, highlight the appropriate field then press **ENTER**. Make your new selection, then press **ENTER** to accept the selection.

The Contour Line settings are used to de-clutter the map. If 'Auto' is the selected 'Zoom' setting, the Major and Minor Contour Lines will be displayed at a higher Map Zoom Scale setting.

Setup Map — 'City' Tab

The 'City' Tab contains the 'Text' and 'Zoom' settings for Large City, Medium City, Small City and Small Towns. To change a setting, highlight the field then press **ENTER**. Make your selection, then press **ENTER** to accept.

The City settings are used to de-clutter the map. If 'Auto' is the selected 'Zoom' setting, the Large and Medium cities will be displayed at a higher Map Zoom Scale setting.

Setup Map — 'Road' Tab

The 'Road' Tab contains the 'Text' and 'Zoom' settings for Local Road Names and 'Zoom' settings for Freeway, Highway, and Local Roads. To change a setting, highlight the appropriate field then press **ENTER**. Make your new selection, then press **ENTER** to accept the selection.

Freeway — Interstate and U.S. Highways

Highway — State Highways and Local Highways

Local Roads — All Other Roads

Local Road Names — Name Labels for Local Roads

Setup Map — 'Other' Tab

The 'Other' Tab contains the 'Text' and 'Zoom' settings for Railroad and a On/Off setting for the Accuracy Circle. To change a setting, highlight the appropriate field then press **ENTER**. Make your new selection, then press **ENTER** to accept the selection.

Railroad — controls the display of railways lines on the Map Page.

Accuracy Circle — The Accuracy Circle is displayed around the Location Triangle on the Map Page. The Accuracy Circle depicts the estimated accuracy of the location. If your current location is matched to a road, no Accuracy Circle will be displayed.

Heading Line — If the Heading line is 'On', a line showing your current heading will be projected on the map from the current location. The Heading line is a thin black line.

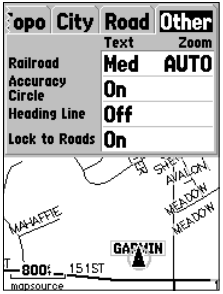
Lock to Roads — If 'Lock to Roads' is 'On', the unit will try to match your location to a road.

Pointer Page

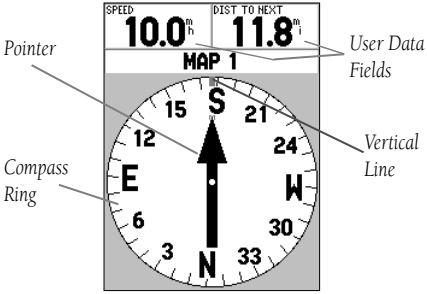
The Pointer Page is best used for navigation when a straight line course can not be followed. The Pointer Page has User Selectable Data Fields along the top, a Status Bar, Compass Ring and a Pointer.

The Compass Ring is a graphic display of your current track. As you change direction, the Compass Ring will rotate, aligning your track with the vertical line. As you change direction+, the Pointer will always point toward the active waypoint. When you are going directly toward the active waypoint, the Pointer is aligned with the vertical line in the Compass Ring. When you arrive at the waypoint, a message 'Arriving at Destination' will be displayed. It is important to note that the Compass Ring does not act as a true compass. You must be moving for the Pointer to update and correctly point towards your destination.

Map Page Options

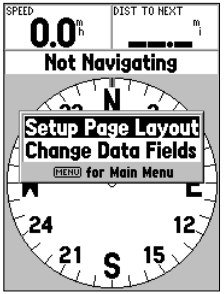


Setup Map — 'Other' Tab

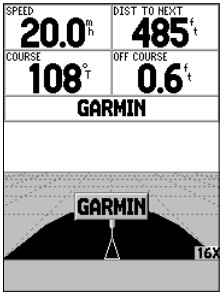


Pointer Page

Pointer Page



Pointer Page Options



Highway Page

Pointer Page Options

To access the Pointer Page Options, with the Pointer Page displayed press the **MENU** Key.

Setup Page Layout — This option allows you to select the number of data field rows and the size of text used in the fields. You have the option of displaying, None, Small (1Row), Small (2 Rows), Small (3 Rows), Medium (1 Row), Medium (2 Rows), Medium (3 Rows), Large (1 Row), or Large (2 Rows). To select an option, highlight the desired selection then press **ENTER**. The new configuration will be displayed on the map. Press **QUIT** to exit the option.

Change Data Fields — This option allow you to select the type of data that you want displayed in the data fields. To change a data type, place the highlight over the desired data field, then press **ENTER**. Using the **ROCKER**, scroll through the available selections. With the data type highlighted, press **ENTER** to accept the selection.

Highway Page

The Highway Page is best used for navigation when a straight line course can be followed. The Highway Page has User Selectable Data Fields along the top, a Status Bar, and the Highway Display.

The Highway Page shares many features with the Map Page. Any tracks, saved tracks or waypoints that are within the display area will be shown, the Zoom Level can be changed using the **IN** and **OUT** Keys, and the Triangle represents your current location.

To navigate using the Highway, just follow the road. If the Highway moves to the right, turn right until the triangle is aligned with the White Line in the middle of the Highway, and the Highway is pointed toward the top of the display. When you are approaching a turn, the message “Approaching Turn” will be displayed. As you approach your destination, the message ‘Arriving at Destination’ will be displayed.

Highway Page

Highway Page Options

To access the Highway Page Options, with the Highway Page displayed press the **MENU** Key. To select an option from the Menu, highlight the desired selection then press **ENTER**.

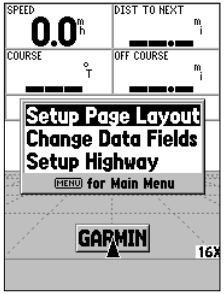
Setup Page Layout — This option allows you to select the text size and the number of data fields rows. You have the option of displaying: None, Small (1Row), Small (2 Rows), Small (3 Rows), Medium (1 Row), Medium (2 Rows), Medium (3 Rows), Large (1 Row), or Large (2 Rows). To select an option, highlight the desired selection then press **ENTER**. The new configuration will be displayed on the map.

Change Data Fields — This option allow you to select the type of data you want displayed in the data fields. To change a data type, place the highlight over the desired data field, then press **ENTER**. Using the **ROCKER**, scroll through the available selections. With the data type highlighted, press **ENTER** to accept the selection.

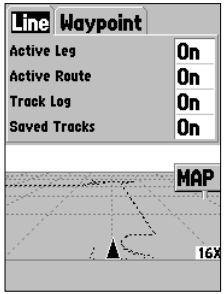
Setup Highway — This option contains the Highway Setup features. The features are arranged on a tab menu making it easy to locate the different setup items. To select an option from a Menu Tab, highlight the desired selection then press **ENTER**.

Setup Highway — 'Line' Tab

The 'Line' Tab contains the On/Off settings for Active Log, Active Route, Track Log and Saved Tracks. To change a setting, highlight the appropriate field then press **ENTER**. Make your new selection, then press **ENTER** to accept the selection.

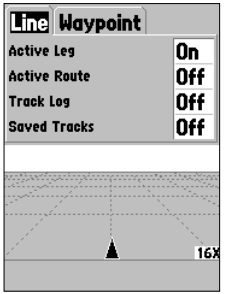


Highway Page Options

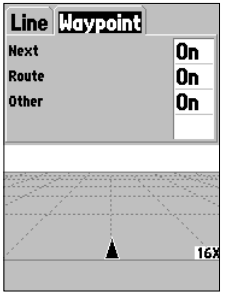


Setup Highway Page

Highway Page



Setup Highway — 'Line' Tab



Setup Highway — 'Waypoint' Tab

Active Leg — If 'Off' is selected, the Active Leg of the Graphic Highway will not be displayed.

Active Route — If 'Off' is selected, the Graphic Highway will not be displayed.

Track Log — If 'Off' is selected, the Track Log will not be displayed.

Saved Tracks — If 'Off' is selected, Saved Tracks will not be displayed.

Setup Highway — 'Waypoint' Tab

The 'Waypoint' Tab contains the On/Off settings for Next, Route, and Other. To change a setting, highlight the appropriate field then press **ENTER**. Make your new selection, then press **ENTER** to accept the selection.

Next — This setting determines if the next waypoint in a Route will be displayed. If 'On' is selected, you will see the next waypoint in the Route. If 'On' is selected and the Route option is set to 'Off' only the Next Waypoint in the Route will be displayed.

Route — This setting determines if the waypoints in a Route will be displayed. If this selection is set to 'Off', Route Waypoints will not be on the Graphic Highway.

Other — This setting determines if nearby waypoints are displayed.

Main Menu Page

The Main Menu Page contains settings and features that are not on the Main Pages. The Main Menu can be accessed from any of the Main Pages by pressing **MENU** twice.

To select an item on the Main Menu, place the highlight over the menu item then press **ENTER**.

Trip Computer

The Trip Computer has eight data fields: Trip Odom, Stopped Time, Moving Avg, Moving Time, Overall Avg, Total Time, Max Speed, and Odometer.

Trip Odom — The Trip Odometer field will display the total distance traveled since the Trip Computer was last reset.

Stopped Time — The Stopped Time field will display the total time that the unit was not moving since the Trip Computer was last reset.

Moving Avg — The Moving Average (Speed) field will display an average speed based on the time the unit was in motion since the Trip Computer was last reset.

Moving Time — The Moving Time field will display the total time the unit was in motion since the Trip Computer was last reset.

Overall Avg — The Overall Average (Speed) field will display the average speed of the unit since the Trip Computer was last reset.

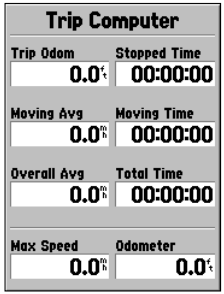
Total Time — The Total Time field will display the Total Time that the unit has been turned on since the Trip Computer was last reset.

Max Speed — The Maximum Speed field will display the maximum speed the unit traveled since the Trip Computer was last reset.

Odometer — Will display the total distance traveled since it was last reset.

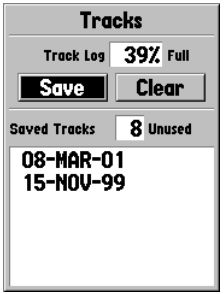
Main Menu
Trip Computer

Main Menu



Main Menu — Trip Computer

Main Menu
Tracks



Main Menu — Track Page

Track Page Options

Trip Computer Options

To access the Trip Computer Options, with the Trip Computer displayed, press the **MENU** Key. To select an option, highlight the desired option then press **ENTER**.

Reset Trip — This option will reset all data fields except max speed and odometer to zero.

Reset Max Speed — This option will reset the Max Speed data field to zero.

Reset Odometer — This option will reset the Odometer data field to zero.

Tracks

The Track Page displays the amount of Track Memory used, will allow you to 'Save' or 'Clear' the current Track Log, and displays a list of any Saved Tracks.

Save — When you select 'Save' you can choose how far back in the log you wish to save. Select the appropriate choice, press **ENTER** to save the selection.

Clear — The 'Clear' Button will allow you to clear the Track Log. If the Map Page is becoming cluttered from all of your tracks, clearing the Track Log will clean up the map.

Track Page Options

To access the Track Options, with the Track Page displayed, press the **MENU** Key.

Delete Saved Track — If you have saved tracks, this option will allow you to delete the saved track.

Delete All Tracks — This option will delete all saved tracks.

Setup Track Log — This selection displays the Track Log Setup menu. This menu contains options for Track Recording, Record Method, and Interval.

- Record — 'Off', 'Wrap When Full' or 'Stop When Full'. If 'Wrap When Full' is selected, when track memory is full, the oldest track point will be deleted and a new point added at the end.
- Record Method — Can be set to 'Auto', 'Time' or 'Distance'
- Interval — is used to either select or enter an interval for the selected Record Method.

Track Information Page

To access information on a Saved Track, highlight the desired track then press **ENTER**. This will display the Track Information Page.

The Track Information Page contains data fields for the Name, Distance, and Points. There are four Option Buttons along the bottom of the page.

Name — this field will allow you to change the Saved Track Name. When tracks are saved the GPSMAP 76 will use a date as the default track name.

Distance — shows the total distance of the Saved Track

Points — shows the number of track log points in the Saved Track

Show on Map and Highway — when checked, will allow Saved Track to be displayed on the Map and Highway Pages.

Delete Button — if the 'Delete' Button is selected, you will be prompted to verify you want to delete the Saved Track.

TracBack Button — will initiate TracBack Navigation. TracBack Navigation uses Track Points in a saved track to automatically create a route. You will have the option of navigating the route in the 'Original' or 'Reverse' direction.

Map Button — will display the Saved Track on the Map Page.

OK Button — saves any changes and returns the display to the Tracks Page.

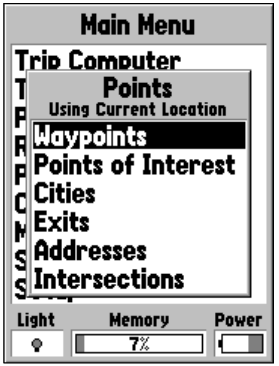
Main Menu
Tracks

Track Information Page

TIP:

If you know that you are going to want to use the TracBack feature for a return trip, clear the Track Log before you start the trip. This will ensure that you are only navigating along the most recent Track.

Main Menu
Waypoints



Main Menu — 'Points'

Points Page

The Points Page allow you to select Waypoints, Points of Interest, Cities, Exits, Addresses, and Intersections using your current location or a location on the map. To select a Point item, highlight the desired selection then press **ENTER**.

Waypoints

When 'Waypoints' is selected, a user waypoint list will displayed. This list can be displayed as 'Waypoints by Name', or by 'Nearest Waypoints'. With the waypoint list displayed, pressing the **MENU** Key will display an Options Menu.

Waypoint Options Menu

Find By Name / Find Nearest — This option allows you to select how the Waypoint List will be displayed.

Find Nearest — will display a list containing the nearest waypoints within a 100 mile radius. The waypoints will be listed with the nearest waypoint at the top of the list.

Find By Name — will display a list containing all User Waypoints. You have the option of entering a waypoint name in the data field or scrolling through the Waypoint List.

As you enter a waypoint name, the GPSMAP 76 will update the waypoint list to show waypoint names that coincide with the letters that have been entered. You can continue to enter the name if you like, or you can press the **ENTER** Key and scroll through the list.

Delete Waypoint — Will delete the selected waypoint.

Delete By Symbol — Will delete all waypoints having the same symbol as the selected waypoint.

Delete All — Will delete all of the user waypoints.

Points Of Interest

Will only be avainable when MapSource CD data that contains Points of Interest information is loaded in the unit. When 'Points of Interest' is selected, the Points of Interest Selection Page is displayed. To select a Points of Interest item, highlight the desired selection then press **ENTER**.

After an item is selected, either a list or selection menu will be displayed. If a selection menu is displayed, make another selection and press **ENTER**. When a list is displayed, pressing **MENU** will give you the option of searching the list by name or by showing the nearest item.

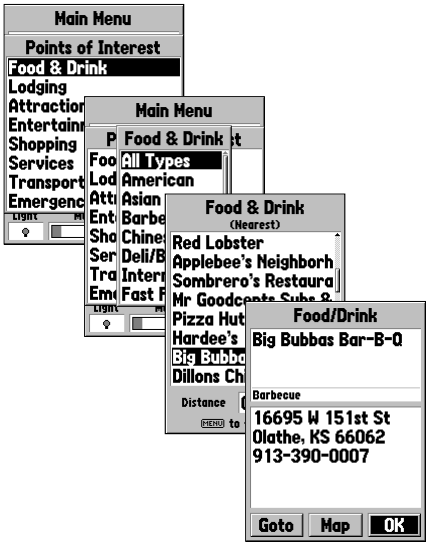
To view information about an item in the list, highlight the item then press **ENTER**. An Information window will be displayed showing the name, address and phone number of the item. To save the item as a waypoint, press the **MENU** Key and with 'Save as Waypoint' selected press **ENTER**.

Along the bottom of the list or Information Page are three buttons, GoTo, Map and OK. 'GoTo' begins direct navigation to the point, 'Map' displays the item on the Map Page and 'OK' returns the display to the list.

Points of Interest Options

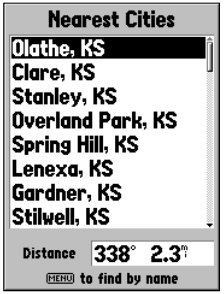
The different Points of Interest displayed depends on the MapSource data that is loaded in the unit.

Main Menu
Points of Interest

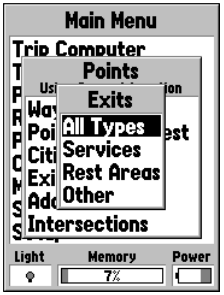


Main Menu — 'Points of Interest'

Main Menu
Cities — Exits



Cities — By Nearest



Main Menu — 'Exits'

Cities

When 'Cities' is selected, a list of cities is displayed with the nearest city listed first. If you press **MENU,** you will have the option of finding a city by name or showing a list of the nearest cities. If you have MapSource CD map data loaded in the unit, you can choose which map data you would like to use for creating the Cities List. With a list of cities displayed, press **MENU**, highlight 'Select Map' then press **ENTER**. You can now select from the available options.

To view information about a city on the list, highlight the city then press **ENTER**. An Information window will be displayed showing the city size (small, medium or large) the name and country of the city, and the bearing/distance of the city from your current location. To save the city as a waypoint, press **MENU** , with 'Save as Waypoint' selected press **ENTER**.

Along the bottom of the Information Page are three buttons, 'GoTo', 'Map' and 'OK'. 'GoTo' begins direct navigation to the point, 'Map' displays the city on the Map Page and 'OK' returns the display to the Cities List.

Exits

When 'Exits' is selected, a list of exit options is displayed. The included options are: All Types, Services, Rest Area, and Other. To select a exit option from the list, highlight the selection then press **ENTER**. When an exit option is selected a list containing the selected data will be displayed.

Exit Options

All Types — Will display a list with data for Services, Rest Areas and Other.

Services — Will display exits with services such as Filling Stations, Restaurants, Hotels Auto Dealership and Parts Suppliers, Hospitals, Banks, Shopping, etc.

Rest Areas — Will display a list of rest areas closest to your location.

After you have selected an Exit Option, a list will be displayed. To view information about a specific item, highlight the item then press **ENTER**. A Page containing information about the item will be displayed. To begin direct navigation to the item, highlight the 'Go Exit' Button then press **ENTER**.

If you would like to select a different road for exit information, press **MENU**, highlight 'Select Exit Road' then press **ENTER**. A list of roads is displayed, enter the road name then press **ENTER** to accept the selection. If you have MapSource CD map data loaded in the unit, you can choose which map data to use for creating the Exits List. With a list of exit options displayed, press **MENU**, highlight 'Select Map' then press **ENTER**. You can now select from the available options.

Addresses

This option will only be available when MapSource CD data that contains addresses is loaded in the unit. When 'Addresses' is selected, the Find Address Page is displayed. To find an address, enter the Number and Street. You can also enter the City and Postal Code, to shorten the search time.

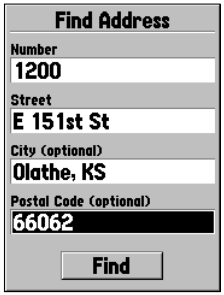
After you have entered the search data, highlight the 'Find' Button then press **ENTER**. The unit will display the Select Address Page.

The Select Address Page will show the addresses that closely match your entry. Highlight the correct address then press **ENTER**. This will display the Address Information Page.

To begin direct navigation to the address, highlight the 'Goto' Button then press **ENTER**. To view the address on the Map, highlight the 'Map' Button then press **ENTER**. To exit the page, highlight the 'OK' Button then press **ENTER**. You also have the option of saving the address as a waypoint. To save the address as a waypoint, press **MENU**, with 'Save as Waypoint' highlighted, press **ENTER**.

Main Menu Exits

Exit Information

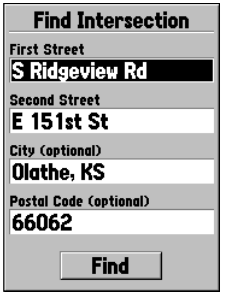


Find Address Page

Main Menu
Addresses — Intersections

TIP:

When searching for an Address or Intersection, do not put a prefix in front of the street name. When you do the search, the unit will display a list where you can quickly make the correct selection.



Find Intersection Page

Intersections

This option will only be available when MapSource CD data that contains intersections is loaded in the unit. When 'Intersection' is selected, the Find Intersection Page is displayed. To find an Intersection, you must enter the First and Second street names. You can also enter the City and Postal Code, these fields will shorten the search time.

To enter a data in one of the fields, highlight the field then press **ENTER**. When you have finished, press **ENTER** to exit the field. When you are ready to search for an Intersection, highlight the 'Find' Button then press **ENTER**. The unit will display the Select Intersection Page.

The Select Intersection Page will show Intersections that closely match your entry. Highlight the correct Intersection then press **ENTER**. This will display the Intersection Information Page. From this page you can Goto the Intersection, view the Intersection on the Map Page, save the Intersection as a waypoint or exit the page.

To begin direct navigation, highlight 'Goto' then press **ENTER**. To view the Intersection on the Map, highlight 'Map' then press **ENTER**. To exit the page, highlight 'OK' then press **ENTER**. You also have the option of saving the Intersection as a waypoint. To save the Intersection as a waypoint, press the **MENU** Key, with 'Save as Waypoint' highlighted, press **ENTER**.

Routes

A Route is a series of waypoints used for point to point navigation. A route must have at least two waypoints, a start and finish, but can contain as many as fifty. The GPSMAP 76 can store fifty routes.

On the Routes Page you can create 'New' routes, determine how many empty routes that you have left, and review a list of existing routes. To display the Routes Page, highlight 'Routes' on the Main Menu then press **ENTER**.

Routes Page Options

With the Routes Page displayed, press **MENU** to view the available options.

Start/Stop Navigation — Will start navigation of a highlighted route. Will stop navigation of an Active Route.

Copy Route — Will make a copy of a highlighted route.

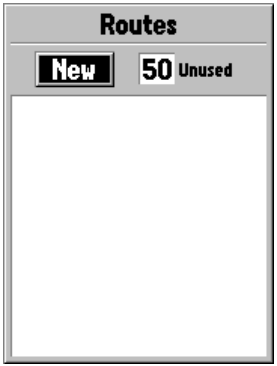
Delete Route — Will remove the highlighted route.

Delete All Routes — Will remove all routes from the Routes Page.

Creating a New Route

There are several methods that can be used to create a route. To begin creating a new route, highlight the 'New' Button on the Routes Page then press **ENTER**. A blank Route Page will be displayed. To display the Create Route Options, press **MENU**. When you are creating a route, you should place the points in the route in the order that you wish to navigate them.

Main Menu
Routes



Routes Page

Main Menu
Routes

Create Route Options

Create Route Options

Use Map — This displays the Map Page with the Map Pointer active. You can now point at any location or point on the map, and enter it into the route.

When using the Map to create a route, you can select an existing User Waypoint/Map Feature, or you can create a 'New' Waypoint. New Waypoints are created if you place the Map Pointer on a location that is not a Map Feature. A "New Waypoint" will be stored in the User Waypoint List and can be edited as any other User Waypoint. When placing a "New Waypoint" in a route, you will have to press **ENTER** to create the waypoint, **ENTER** to save the waypoint and **ENTER** a final time to insert it into the route.

If you place the Map Pointer on a Map Feature (road, park, intersection, etc.) the GPSMAP 76 will store that location only to the route using the feature name as a reference. These points are not stored in the User Waypoint List. If you would like to save a Map Feature Point as a User Waypoint, highlight the point in the route, press **ENTER**, this will display an Information Page. With the Information Page displayed, press **MENU** and select 'Save as Waypoint'.

Add Waypoint — This will display the Points Menu (see page 40 for information on the Points Menu). As a note, if you highlight the dashed line in the waypoint field on the Route Page and press **ENTER** it is the same as making this selection. Use the Point Menu to display an Information Page, then highlight the 'OK' Button and press **ENTER**.

Using a combination of the Map Page and Route Page — You can create a route using a combination of the methods described above. Starting with a blank Route Page, either enter a waypoint manually or press the **MENU** Key and select 'Use Map'. You can select 'Use Map' at any time while creating a route. After you have finished using the map, press **QUIT** to display the Route Page where you can continue entering waypoints manually.

Naming the Route — the GPSMAP 76 will automatically name the route using the first and last waypoint names as a reference. To change the Route Name, place the highlight over the Name field then press **ENTER**. When you have finished, press **ENTER** to save the new name.

Editing a Route

To edit a route the unit must be on the Route Page. When editing a route you can Insert a Waypoint, Remove a Waypoint, Reverse the Route, Delete the Route or choose to edit the route on the Map Page. To display the Route Edit Options, press the **MENU** Key.

Route Edit Options

Use Map — This will display the Map Page with the Route Line active and the Map Pointer located on the waypoint highlighted on the Route Page.

'Review' Route Waypoint — To review information on a route waypoint, place the Map Pointer on the waypoint then press **ENTER**. This will display an options menu, highlight 'Review' then press **ENTER** to display the waypoint information.

Inserting a New waypoint — There are two methods that can be used to insert a new waypoint into a route.

1. Place the Map Pointer on the route leg that you want to insert the new point in, the line will turn to a small dashed line. Press **ENTER**, the Map Pointer will have "Ins" under it. Move the Map Pointer dragging the Route Line to the location that you want the new point at then press **ENTER**. If the new location is a Map Feature, the point will be inserted in the leg. If the location is not on a Map Feature, the New Waypoint Page will be displayed, press **ENTER** to save the new waypoint then **ENTER** again to insert the new waypoint in the route.

Route Edit Options

Main Menu
Routes

Inserting a Route Waypoint

2. Place the Map Pointer over a location that is not a Map Feature then press **ENTER.** The New waypoint Page will be displayed, press **ENTER** to save the new waypoint. Place the Map Pointer over the route leg that you want to insert the waypoint into then press **ENTER.**

'Remove' a Point or Waypoint — To remove a point or waypoint from the route, place the Map Pointer over the point or waypoint that you want to remove then press **ENTER**, this will display an options menu. Highlight 'Remove' then press **ENTER**. The point or waypoint will be removed and the Map Pointer will move to the next point in the route.

'Move' a Waypoint — Only User Waypoints can be moved. To move a waypoint, place the Map Pointer on the waypoint then press **ENTER**, this will display an options menu. Highlight 'Move' then press **ENTER**. Place the Map Pointer at the desired new location, press **ENTER** to move the waypoint.

'Next' point in Route — to move the Map Pointer to the next point in the route, with the Map Pointer on a route point or waypoint, press **ENTER**. This will display an options menu. Highlight 'Next', press **ENTER** and the Map Pointer will move to the next point or waypoint in the route.-

Insert Waypoint — When 'Insert Waypoint' is selected the Points Menu is displayed (see page 40 for more information on the Points Menu). Select a point from the menu to insert it into the route. The new point will be inserted into the route above the waypoint highlighted on the Route Page.

Remove Waypoint — Will remove the waypoint that is highlighted on the Route Page. With a waypoint highlighted, press **MENU**. Highlight 'Yes' and press **ENTER** to remove the waypoint.

Reverse Route — Will reverse the direction of the route placing the last waypoint at the top of the list.

Plan Route — To plan a route, enter a Speed, Fuel Flow, Depart Time and Depart Date. Fuel Flow is measured in "units per hour" it may be necessary to consult your vehicles Owner's Manual for performance specifications.

The Active Route Page and Route Page display trip-planning information for each leg or the entire route. Available information includes Course, ETA, Fuel to point, Leg Fuel, Leg Time, Sunrise & Sunset at point location, Time to Point and Leg Distance. To show a specific field, with the Active Route or Route Page displayed, press the **ROCKER** right or left to cycle through the fields.

Delete Route — Will remove the selected route from the Routes Page.

Proximity

Proximity waypoints can be used to alert you when you are approaching a predetermined area. When you place a waypoint in the Proximity List, you will enter a 'Radius' that will determine when a Proximity Alarm will be displayed. You can turn the Proximity Alarm On or Off for your convenience.

Proximity Options

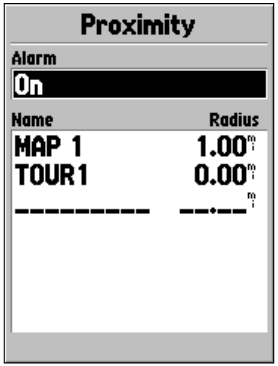
To view the available options with the Proximity Page displayed press **MENU**.

Add Waypoint — When 'Add Waypoint' is selected, the Points Menu is displayed (see page 40 for more information on the Points Menu). Select a point from the menu to insert it into the Proximity List. With the 'Radius' field highlighted, press **ENTER.** Enter a radius for an alert to be displayed. You can also add a waypoint by highlighting the dashed entry line and pressing **ENTER**.

Remove Point — Removes the highlighted waypoint from the Proximity List.

Remove All — Removes all waypoints from the Proximity List.

Main Menu Proximity



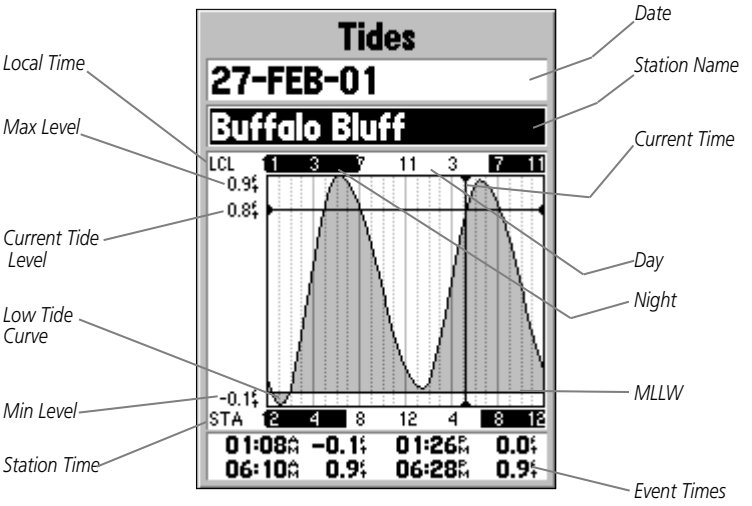
Proximity Page

Main Menu
Celestial

Celestial Selections

Celestial

The Celestial Menu let's you view information for Tides, Sun and Moon , or Hunt and Fish.



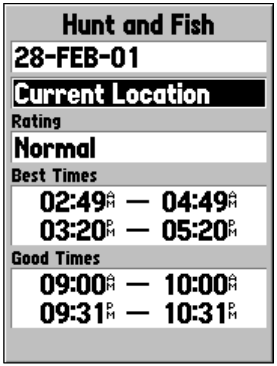
Tides — Displays a graphical chart which displays tide station information in a 24 hour span starting at midnight station time. You can choose from different dates and over 3000 tide stations around the USA coastline, Alaska, Hawaii, western Canada and several of the Caribbean Islands.

The top of the page will display the date being referenced with the tide station being referenced, below. The top of the chart will show a 24-hour block of local time (LCL) for your position, with the reported station time (STA) appearing at the bottom. Daylight (light bar) and night (dark bar) will show across the time scale, with the time progressing from left to right. (Local time scales and sunrise/sunset info may not be available for a few stations). The solid, light vertical lines are in 4-hour increments, with the light, dotted vertical lined in one-hour increments. A dark vertical line (with arrows at the ends of the line) will indicate the time of day when using current date and will intersect the tide graph to show their relation.

The tide curve will show as a shaded area, with higher tides being taller and lower tides shorter. The dark horizontal line (with arrows at the ends of the line) will indicate the current tide height. The figure to the left of the line will show the current tide level in feet. The Mean Lower Low Water (MLLW) will appear as a solid vertical line near the bottom of the chart (This line will only appear if the tide ranges to the zero value or below). The top and bottom numbers to the left of the chart, 'LCL and 'STA' indicate the maximum/minimum levels, respectively. The four data fields below the chart, indicate event times and levels at which the tide changes starting in the upper left field, going downward, then to the upper right and down again.

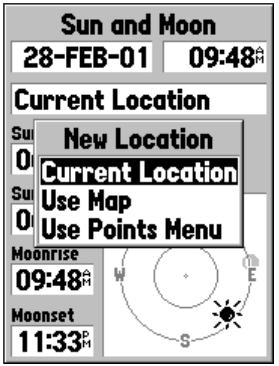
Hunt and Fish — The Hunt and Fish Page displays data for Good and Best times for hunting and fishing at the selected location. There is also a Rating (excellent, good, normal, poor) displayed, that will reflect the productivity of the day. You may display this information for your current location or you can use the Map or Points Menu to select a location. To display the location options, press **ENTER** with Location field highlighted. You can also use the current date and time or enter a date and time of your choice.

Main Menu
Celestial



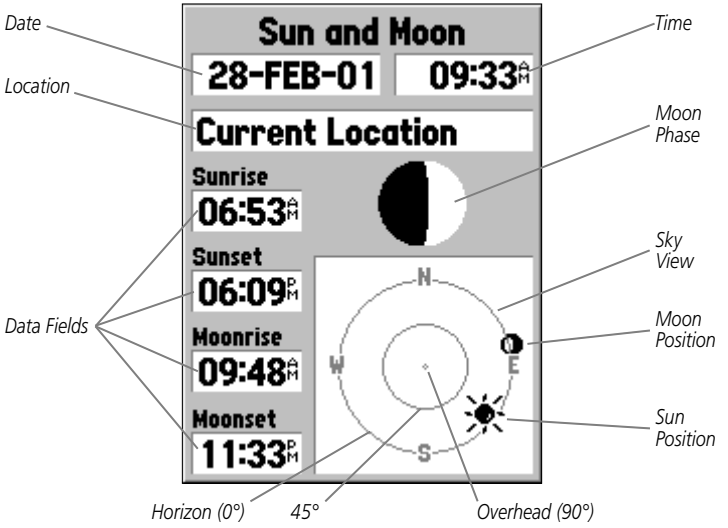
Hunt and Fish Page

Main Menu
Celestial



Location Options

Sun and Moon — The Sun and Moon Page displays data for Sunrise/Sunset, Moonrise/Moonset, and the approximate location of the Sun and Moon on a skyview. The moon phase will display the current visible portion of the moon in a light color. You may display this information for your current location or you can use the Map or Points Menu to select a location. To display the location options, press **ENTER** with Location field highlighted. You can also use the current date and time or enter a date and time of your choice.



MapSource Info

The MapSource Info Page displays a list of the MapSource data stored in the unit and description of the highlighted list item. You can choose to 'Show' the data on the map, by placing a checkmark in the 'Show' Box. To select/deselect a box, place the highlight over the MapSource Item then press **ENTER**.

System Info

The System Info Page will show your software version number and the unit ID number.

Setup Menu

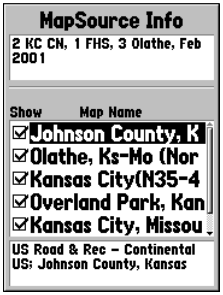
The Setup Menu is arranged in an easy to use tab format. Each tab (General, Time, Units, Location, Alarms, Interface) contains the settings that will determine how the unit functions. To select a tab, the highlight must be on the tab name then use the **ROCKER** Key (right/left) to scroll through the tabs. To select a data field on a tab, user the **ROCKER** Key (up/down) to highlight the selection then press **ENTER**. To restore the GPSMAP to the factory settings for items on the tab, press **MENU** and with 'Restore Defaults' highlighted press **ENTER**.

Setup Menu — 'General' Tab

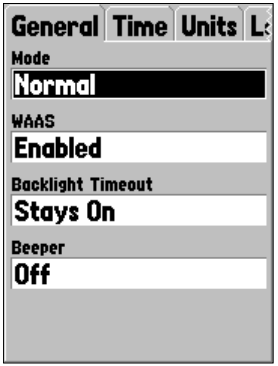
The 'General' Tab contains settings for the Receiver Mode, WAAS, Backlight Time Out, and Beeper. To change a setting highlight the field then press **ENTER**. Make your selection then press **ENTER** to activate the selection.

Mode — The Mode selections are 'Normal', 'Battery Saver' and 'Simulator'

'Normal' — This is the default mode set from the factory. Use this setting for best performance.



Main Menu
Setup Menu — General Tab



General Tab

'Battery Saver' — When 'Battery Saver' is selected, the receiver is optimized to save battery power. When in the Battery Saver mode you may experience slower screen updates, but should notice a significant increase in battery life.

'Simulator' — When in 'Simulator' mode the GPS receiver is turned off and the unit simulates satellite reception. Use the Simulator mode when the unit is indoors and you wish to practice with the unit.

'WAAS' — WAAS is an acronym for "Wide Area Augmentation System". You can use the WAAS capability of the GPSMAP 76 to increase the accuracy to approximately 3 meters. When enabled the GPS receiver searches for a WAAS satellite, then receives data that will help correct differentials in the GPS signal. When the unit is using WAAS data, a "D" will be displayed in the Satellite Strength Indicators on the GPS Information Page, and the receiver status will indicate a 2D or 3D Differential Location.

Currently the WAAS system is not fully operational and there are only two satellites in place, one over the Pacific Ocean and one over the Atlantic Ocean. You must have a clear unobstructed view of the sky for the GPSMAP 76 to be able to receive a WAAS signal, even then, at times it may not be possible to receive a WAAS signal. WASS satellites are not received in Battery Saver Mode.

For more information on the WAAS system visit the Federal Aviation Administration website at (gps.faa.gov).

'Backlight Timeout' — Sets the time that the Backlight will remain on once activated. The options are 'Stays On', '15 Seconds', '30 Seconds', '1 Minute' and '2 Minutes'.

'Beeper' — This setting determines when the Beeper is used. The options are 'Key and Message', 'Message Only', and 'Off'.

Setup Menu — 'Time' Tab

The 'Time' Tab contains settings for Time Format, Time Zone, Daylight Savings time, Current Date, and Current Time. To change a setting highlight the field then press **ENTER**. Make your selection then press **ENTER** to activate the selection.

'Time Format' **—** Using this setting you can have the GPSMAP 76 display time in a 12 or 24 hour format.

'Time Zone' **—** The 'Time Zone' setting has nine options, Atlantic, Eastern, Central, Mountain, Pacific, Alaska, Hawaii, Samoa, and Other. If you choose 'Other' a new field "UTC Offset" will be displayed. Enter the correct offset for your Time Zone. You can find a chart with UTC Offsets in Appendix C.

'Daylight Savings Time' **—** Has three options, 'Yes', 'No', and 'Auto'. If you select 'Auto' the unit will automatically determine when Daylight Savings Time should be displayed. If you select 'Yes' Daylight Savings Time for the current location will be displayed. If you select 'No', Daylight Savings Time will not be displayed. If you have 'Other' selected in the 'Time Zone' field, this option will not be available and Daylight Savings Time will be off.

'Current Date' **—** This field shows the current date as determined by the unit, it is not accessible by the user.

'Current Time' **—** This field shows the time at the current location. This field reflects any settings in the 'Daylight Savings Time' field, and is not accessible by the user.

Main Menu
Setup Menu — Time Tab

Time Tab

Main Menu
Setup Menu — Units Tab

Location Formats

hddd.ddddd°
hddd°.mm.mmm'
hddd°.mm'ss.s"
British Grid
Dutch Grid
Finnish Grid
German Grid
India Zone 0
India Zone IA
India Zone IB
India Zone IIA
India Zone IIB
India Zone IIIA
India Zone IIIB
India Zone IVA
India Zone IVB
Irish Grid
LORAN TD
Maidenhead
MGRS
New Zealand
QNG Grid
Swedish Grid
Swiss Grid
Taiwan Grid
UTM UPS
W Malayan RSO
User UTM Grid

User UTM Grid

The 'User UTM Grid' will let the user define a grid for a location format. The user will have to know the Longitude Origin, Scale, False Easting, and False Northing to create the grid.

For more information on grids and datums, we recommend that you visit the National Imagery and Mapping Agency at http://www.nima.mil

Setup Menu — 'Units' Tab

The 'Units' Tab contains settings for Elevation, Depth, Distance and Speed, Temperature, Direction Display, and Speed Filter. These settings are used in related fields throughout the unit.

'Elevation' **—** Can be set to show in 'Feet' or 'Meters'.

'Depth' **—** Can be set to display in 'Feet', 'Fathoms' and 'Meters'. The GPSMAP 76 cannot measure depth on its own. The depth input has to come from a NMEA device providing the "DPT" sentence.

'Distance and Speed' **—** Can be set to 'Nautical', 'Statute' or 'Metric'.

'Temperature' **—** Can be set to 'Fahrenheit' or 'Celsius'.

'Direction Display' **—** Can be set to 'Numeric Degrees' or 'Cardinal Letters'. The setting will be used in all fields that relate to direction throughout the unit.

'Speed Filter' **—** Can be set to 'Auto' or a 'User' defined setting. If 'User' is selected, a Seconds field will be displayed. To enter a 'User' defined setting, highlight the Seconds field then press **ENTER**. When finished, press **ENTER** to save the entry. When using a 'User' defined setting, the unit will average the speed and heading at the rate specified in the time setting.

Setup Menu — 'Location' Tab

The 'Location' Tab contains the settings for 'Location Format', 'Map Datum', 'North Reference' and 'Magnetic Variation'. The settings are used in related fields throughout the unit.

'Location Format' **—** There are 28 different formats to choose from. See the sidebar for a list of the formats. You should not need to change the format unless you are using a chart or paper map for navigation. If so, find the format that most closely matches your chart or map.

'Map Datum' — Datums are used to describe geographic positions for surveying, mapping, and navigation and are not actual maps built in the unit. Although there are over 100 datums available to choose from, you should only need to change the Map Datum if you using a chart or paper map that specifies a different datum in the legend.

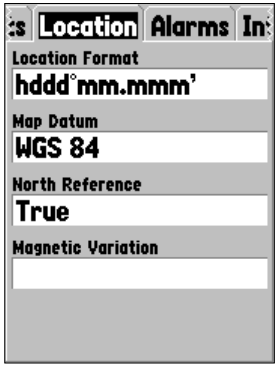
WARNING: Selecting the wrong map datum can result in substantial position errors. When in doubt, use the default WGS 84 datum for best overall performance.

'North Reference' — Let's you select the reference used in calculating heading information. You can select from, 'Auto' 'True', 'Magnetic', 'Grid' or 'User'. 'Auto' provides magnetic north heading references which are automatically determined from your current location. 'True' provides headings based upon a true north reference. 'Grid' provides headings based on a grid north reference (used in conjunction with the grid location formats described on page 56). 'User' allows you to specify the magnetic variation at your current location, and provides magnetic north heading references based on the value you entered.

WARNING: If 'User' is selected, you must periodically update the magnetic variation at your present position. Failure to update this setting may result in substantial differences between the information displayed on your unit and external references, such as a magnetic compass.

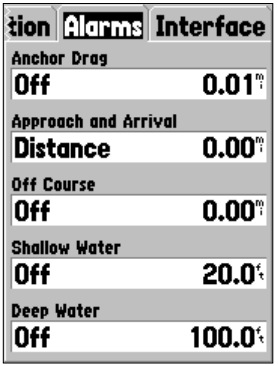
'Magnetic Variation' — displays the magnetic variation at your current location. If 'User' is selected for the 'North Reference', this field is used to enter the magnetic variance.

Main Menu
Setup Menu — Location Tab



Setup Menu — 'Location' Tab

Main Menu
Setup Menu — Alarms Tab



Setup Menu — 'Alarms' Tab

Setup Menu — 'Alarms' Tab

The 'Alarms' Tab contains settings for Anchor Drag, Approach and Arrival, Off Course, Shallow Water, and Deep Water. These settings will determine if, and when an warning beep is sounded and/or a message is displayed.

'Anchor Drag' **—** The Anchor Drag Alarm will alert you when the boat has drifted more than a distance set by the user. The alarm can be turned 'On' or 'Off'.

'Approach and Arrival' **—** The Approach and Arrival Alarms alert you when you are approaching a turn or arriving at your destination. 'Automatic' will alert you between 15 and 90 seconds before depending on your speed. 'Distance' and 'Time' alert you at the specified distance or time.

'Off Course' **—** The Off Course Alarm will alert you when you are off course more than the distance set. The Off Course alarm can be turned 'On' or 'Off'.

'Shallow Water' **—** This alarm requires input from a NMEA device supplying the "DPT" sentence. The Shallow Water alarm will alert you when the water depth is less than the depth set.

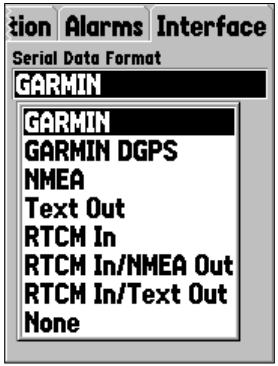
'Deep Water' **—** This alarm requires input form a NMEA device supplying the "DPT" sentence. The Deep Water Alarm will alert you when the water is deeper than the depth set.

Setup Menu — 'Interface' Tab

The Interface Tab contains one field, 'Serial Data Format'. This field contains eight settings that allow the GPSMAP 76 to communicate with computer software and other electronic devices.

- ***GARMIN —*** Allows the GPSMAP 76 to communicate with GARMIN software and other GARMIN GPS units.
- ***GARMIN DGPS —*** Allows the GPSMAP 76 to communicate with GARMIN Differential Correction devices. The unit can have the beacon receiver scan for available DGPS beacon or can tune the beacon receiver to the frequency and bit rate of a nearby DGPS beacon.
- ***NMEA —*** Causes the unit to transmit NMEA data. It also allows the GPSMAP 76 to accept NMEA data from another NMEA device, like a echo sounder. The baud (speed of communication in bits per second) is displayed in the Baud field.
- ***Text Out —*** Allows the GPSMAP 76 to output simple text data that includes, date, time, position, and velocity information. The Baud can be set to 1200, 2400, 4800, or 9600 bps.
- ***RTCM In —*** Allows the GPSMAP 76 to accept DGPS information from a device supplying RTCM data in a SC-104 format. The Baud can be set to 1200, 2400, 4800, or 9600 bps.
- ***RTCM In/NMEA Out —*** Functions the same as the 'GARMIN DGPS' setting except, the unit will output NMEA 0183, version 2.3 sentences, GPRMC, GPGGA, GPSA, GPGSV, GPGLL, GPBOD, GPRTE, and GPWPL.
- ***RTCM In/Text Out —*** Functions the same as the 'RTCM In' setting except, the unit will output simple text data that includes date, time, position, and velocity information. The Baud can be set to 1200, 2400, 4800, or 9600 bps.
- ***None —*** Turns off all serial communication.

Main Menu
Setup Menu — Interface Tab



Setup Menu — 'Interface' Tab

Appendix A

Specifications

Physical Specifications

Size:	1.3”x2.7”x6.2”
Weight:	7.5 ozs (??kg)
Display:	2.9" diagonal (6.0cm) high-contrast, 4-level gray LCD with backlighting (180 x 240 pixels)
Case:	Fully gasketed, floatable, high-impact plastic alloy, waterproof to IEC 529-IPX-7
Temp. Range:	5°F to 158°F (-15°C to 70°C)

Performance

Battery Life:	16 Hours in Battery Saver Mode
Receiver:	Differential-ready 12 parallel channel receiver
Acquisition Times:	Approx. 15 seconds (warm start) Approx. 45 seconds (cold start) Approx. 5 minutes (First Time/AutoLocate™)
Update Rate:	1/second, continuous
GPS Accuracy:	*< 15 meters (49 feet) RMS 95% typical
DGPS (USCG) Accuracy:	3-5 meters (10-16 ft), 95% typical
DGPS (WAAS) Accuracy:	,3 meters (10ft) 95% typical with DGPS corrections
Velocity Accuracy:	0.1 knot RMS steady state
Dynamics:	6g's

* Subject to accuracy degradation to 100m 2DRMS under the U.S. DOD-imposed Selective Availability Program.

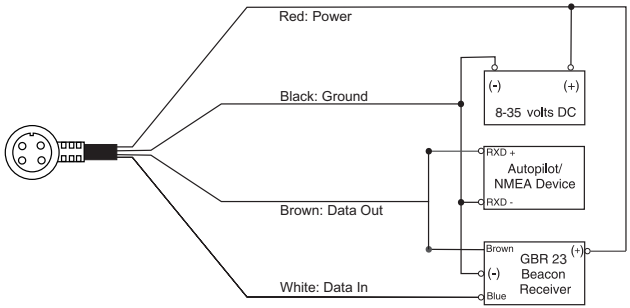
Power

Batteries:	Two 1.5-volt AA batteries[1]
Source:	8-35V DC
Fuse:	AGC/3AG - 2.0 Amp

[1]The temperature rating for the GPSMAP 76 may exceed the usable range of some batteries. Alkaline batteries can rupture at high temperatures. Alkaline batteries lose a significant amount of their capacity as temperature decreases. Use lithium batteries when operating the GPSMAP 76 in below-freezing conditions. Extensive use of screen backlighting will significantly reduce battery life.

Connecting the Power/Data

The power/data cable connects the GPSMAP 76 to a 8-35 volt DC system and provides interface capabilities for connecting external devices. The color code in the diagram below indicates the appropriate harness connections. Replacement fuse is a AGC/3AG - 2.0 Amp fuse.



Interfacing

The following formats are supported for connection of external devices:

GARMIN proprietary Differential GPS (DGPS), NMEA 0180, 0182, 0183 (versions 1.5, 2.0, 2.3), ASCII Text Output, RTCM SC-104 input (version 2.0).

The following are the sentences for NMEA 0183, version 2.3 output:

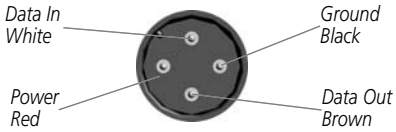
Approved sentences — GPRMC, GPGGA, GPGSA, GPGSV, GPGLL, GPBOD, GPRTE, and GPWPL; Proprietart sentences — PGRME, PGRMZ, and PSLIB. The GPSMAP 76 also includes NMEA input with support for the DPT, MTW, and VHW sentences.

You can dowload a copy of GARMIN's proprietary communication protocol on the Help and Support section of our website at www.garmin.com

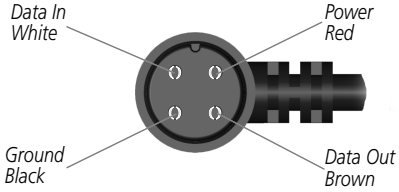
Appendix B

Wiring & Interfacing

Unit View



Cable View



Appendix C

Time Offsets

The chart below gives an approximate UTC (Universal Time Coordinate) time offset for the various longitudinal zones. Check with local charts for more detailed information. If you are in daylight savings time, add one hour to the offset.

Longitudinal Zone	Offset
W180.0º to W172.5º	-12
W172.5º to W157.5º	-11
W157.5º to W142.5º	-10
W142.5º to W127.5º	-9
W127.5º to W112.5º	-8
W112.5º to W097.5º	-7
W097.5º to W082.5º	-6
W082.5º to W067.5º	-5
W067.5º to W052.5º	-4
W052.5º to W037.5º	-3
W037.5º to W022.5º	-2
W022.5º to W007.5º	-1
W007.5º to E007.5º	0

Longitudinal Zone	Offset
E007.5º to E022.5º	+1
E022.5º to E037.5º	+2
E037.5º to E052.5º	+3
E052.5º to E067.5º	+4
E067.5º to E082.5º	+5
E082.5º to E097.5º	+6
E097.5º to E112.5º	+7
E112.5º to E127.5º	+8
E127.5º to E142.5º	+9
E142.5º to E157.5º	+10
E157.5º to E172.5º	+11
E172.5º to E180.0º	+12

Appendix D

Map Datums

Adindan	Adindan- Ethiopia, Mali, Senegal, Sudan
Afgooye	Afgooye- Somalia
AIN EL ABD '70	AIN EL ANBD 1970- Bahrain Island, Saudi Arabia
Anna 1 Ast '65	Anna 1 Astro '65- Cocos I.
ARC 1950	ARC 1950- Botswana, Lesotho, Malawi, Swaziland, Zaire, Zambia RC 1960 Kenya, Tanzania
Ascnsn Isld '58	Ascension Island '58- Ascension Island
Astro B4 Sorol	Sorol Atoll- Tern Island
Astro Bcn "E"	Astro Beacon "E"- Iwo Jima
Astro Dos 71/4	Astro Dos 71/4- St. Helena
Astr Stn '52	Astronomic Stn '52- Marcus Island
Aus Geod '66	Australian Geod '66- Australia, Tasmania Island
Aus Geod '84	Australian Geod '84- Australia, Tasmania Island
Austria	Austria
Bellevue (IGN)	Efate and Erromango Islands
Bermuda 1957	Bermuda 1957- Bermuda Islands
Bogata Observ	Bogata Obsrvatry- Colombia
Campo Inchspe	Campo Inchauspe- Argentina
Canton Ast '66	Canton Astro 1966- Phoenix Islands
Cape	Cape- South Africa
Cape Canavrl	Cape Canaveral- Florida, Bahama Islands
Carthage	Carthage- Tunisia
CH-1903	CH 1903- Switzerland
Chatham 1971	Chatham 1971- Chatham Island (New Zealand)Chua Astro
Chua Astro- Paraguay	
Corrego Alegr	Corrego Alegre- Brazil
Djakarta	Djakarta (Batavia)- Sumatra Island (Indonesia)
Dos 1968	Dos 1968- Gizo Island (New Georgia Islands)
Dutch	Dutch
Easter Isld 67	Easter Island 1967
European 1950	European 1950- Austria, Belgium, Denmark, Finland, France, Ger many, Gibraltar, Greece, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland
European 1979 Sweden, Switzerland	European 1979- Austria, Finland, Netherlands, Norway, Spain,
Finland Hayfrd	Finland Hayford- Finland
Gandajika Base	Gandajika Base- Republic of Maldives
GDA	Geocentric Datum of Australia
Geod Datm '49	Geodetic Datum '49-New Zealand
Guam 1963	Guam 1963- Guam Island
Gux 1 Astro	Guadalcanal Island
Hjorsey 1955	Hjorsey 1955- Iceland
Hong Kong '63	Hong Kong
Hu-Tzu-Shan	Taiwan
Indian Bngldsh	Indian- Bangladesh, India, Nepal
Indian Thailand	Indian- Thailand, Vietnam
Indonesia 74	Indonesia 1974-Indonesia
Ireland 1965	Ireland 1965- Ireland
ISTS 073 Astro	ISTS 073 ASTRO '69- Diego Garcia
Johnston Island	Johnston Island NAD27 Central
Kandawala	Kandawala- Sri Lanka
Kerguelen Islnd	Kerguelen Island
Kertau 1948	West Malaysia, Singapore
L. C. 5 Astro	Cayman Brac Island
Liberia 1964	Liberia 1964- Liberia
Luzon Mindanao	Luzon- Mindanao Island
Luzon Philippine	Luzon- Philippines (excluding Mindanao Isl.)
Mahe 1971	Mahe 1971- Mahe Island
Marco Astro	Marco Astro- Salvage Isl.
Massawa	Massawa- Eritrea (Ethiopia)
Merchich	Merchich- Morocco

Appendix D

Map Datums

Midway Ast '61	Midway Astro '61- Midway
Minna	Minna- Nigeria
NAD27 Alaska	North American 1927- Alaska
NAD27 Bahamas	North American 1927- Bahamas
NAD27 Canada	North American 1927- Canada and Newfoundland
NAD27 Canal Zone	North Am. 1927- Canal Zone
NAD27 Caribbn	North American 1927- Caribbean (Barbados, Caicos Islands, Cuba, Dom. Rep., Grd. Cayman, Jamaica, Leeward and Turks Islands)
NAD27 Central	North American 1927-Central America (Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua)
NAD27 CONUS	North Am. 1927- Mean Value (CONUS)
NAD27 Cuba	North American 1927- Cuba
NAD27 Grnland	North American 1927- Greenland (Hayes Peninsula)
NAD27 Mexico	N. American 1927- Mexico
NAD27 San Sal	North American 1927- San Salvador Island
NAD83	North American 1983- Alaska, Canada, Central America, CONUS, Mexico
Nhrwn Masirah	Nahrwn- Masirah Island (Oman)
Nhrwn Saudi A	Nahrwn- Saudi Arabia
Nhrwn United A	Nahrwn- United Arab Emirates
Naparima BWI	Naparima BWI- Trinidad and Tobago
Obsrvtorio '66	Observatorio 1966- Corvo and Flores Islands (Azores)
Old Egyptian	Old Egyptian- Egypt
Old Hawaiian	Old Hawaiian- Mean Value
Oman	Oman- Oman
Ord Srvy GB	Old Survey Grt Britn- England, Isle of Man, Scotland, Shetland Isl., Wales
Pico De Las Nv	Canary Islands
Potsdam	Potsdam-Germany
Ptcairn Ast '67	Pitcairn Astro '67- Pitcairn
Prov S Am '56	Prov So Amricn '56- Bolivia, Chile,Colombia, Ecuador, Guyana, Peru, Venezuela
Prov S Chln '63	So Chilean '63- S. Chile
Puerto Rico	Puerto Rico & Virgin Isl.
Qatar National-	Qatar South Greenland
Qornoq	Qornog-South Greenland
Reunion	Reunion- Mascarene Island
Rome 1940	Rome 1940- Sardinia Isl.
RT 90	Sweden
Santo (Dos)	Santo (Dos)- Espirito Santo
Sao Braz	Sao Braz- Sao Miguel, Santa Maria Islands
Sapper Hill '43	Sapper Hill 1943- East Falkland Island
Schwarzeck	Schwarzeck- Namibia
Sth Amrcn '69	S. American '69- Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Venezuela, Trin/Tobago
South Asia	South Asia- Singapore
SE Base	Southeast Base- Porto Santo and Madiera Islands
SW Base	Southwest Base- Faial, Graciosa, Pico, Sao Jorge and Terceira
Timbalai 1948	Timbalai 1948- Brunei and E. Malaysia (Sarawak and Sabah)
Tokyo	Tokyo- Japan, Korea, Okinawa
User	User-defined custom datum
Tristan Ast '68	Tristan Astro 1968- Tristan da Cunha
Viti Levu 1916	Viti Levu 1916- Viti Levu/Fiji Islands
Wake-Eniwetok	Wake-Eniwetok- Marshall
WGS 72	World Geodetic System 72
WGS 84	World Geodetic System 84
Zanderij	Zanderij- Surinam (excluding San Salvador Island)

Elevation— Height above mean sea level (MSL).

Avg Speed— The average of all second-by-second speed readings since last reset.

Bearing (BRG)— The compass direction from your current location to a destination.

Course— The desired course between the active 'from' and 'to' waypoints.

Distance (Dist)— The 'great circle' distance from current location to a destination.

Dist to Dest— The 'great circle' distance from current location to a GOTO destination, or the final waypoint in a route.

Dist to Next— The 'great circle' distance from current location to a GOTO destination, or the next waypoint in a route.

ETA— Estimate Time of Arrival. The estimated time you will reach your destination waypoint, based on current speed and track.

ETA at Dest— The estimated time you will reach a GOTO destination, or the final waypoint in a route.

ETA at Next— The estimated time you will reach a GOTO destination, or the next waypoint in a route.

Fuel— The fuel required to travel from current location to the indicated route waypoint.

Leg Dist— The distance between two route waypoints.

Leg Fuel— The fuel required to travel from a route waypoint to the next waypoint (in sequence) in the route.

Leg Time— The time required to travel from a route waypoint to the next waypoint (in sequence) in the route.

Max Speed— The maximum second-by-second speed recorded since last reset.

Moving Average Speed— Average speed while the unit is moving.

Moving Trip Timer— Total time the unit has been moving.

Appendix E

Navigation Terms

Appendix E

Navigation Terms

Odometer— A running tally of distance travelled, based upon the distance between second-by-second position readings.

Off Course— The distance you are off a desired course in either direction, left or right. Also referred to as 'cross-track error' or 'course error'.

Speed— The current velocity at which you are travelling, relative to a ground position. Also referred to as 'ground speed'.

Time To— The estimated time required to reach a GOTO destination, or the next waypoint in a route. Also referred to as 'estimated time en route'.

Time to Dest— The estimated time required to reach a GOTO destination, or the final waypoint in a route.

Time to Next— The estimated time required to reach a GOTO destination, or the next waypoint in a route.

To Course— The recommended direction to steer in order to reduce course error or stay on course. Provides the most efficient heading to get back to the desired course and proceed along your route.

Track— The direction of movement relative to a ground position. Also referred to as 'ground track'.

Trip Odometer— A running tally of distance travelled since last reset. Also see 'Odometer'.

Total Average Speed— Average speed of unit for both moving and stopped speeds since last timer reset.

Total Trip Timer— Total time the unit has been in operation since last reset of the trip timers.

Turn— The angle difference between the bearing to your destination and your current track. 'L' indicates you should turn left, 'R' indicates you should turn right. The degrees indicate the angle you are off course.

VMG— Velocity Made Good. The speed you are closing in on a destination along a desired course. Also referred to as the 'vector velocity' to your destination.

Cannot display all found, use city or postal code — The unit found too many items to display. Narrow the search using the city or postal code.

Dragging Anchor — is the message displayed when the distance set in the Anchor Alarm is exceeded.

Approaching Turn — is displayed when you are nearing a turn in a route.

Arriving at Destination — is displayed when you are nearing your destination.

Batteries Low — when displayed you have less than 10 minutes of battery left.

Deep Water — The water is deeper than the amount set in the Deep Water Alarm.

Database Error — Internal problem with the unit. Contact your dealer or GARMIN Customer Service to have the unit repaired.

No Diff GPS Location — RTCM is selected but the unit is not receivig DGPS data.

Memory Full — Unit memory is full, no further data can be saved.

None Found — No data matched the search criteria.

No Tide Stations for that Area — No tide stations within 100 miles of the area.

Off Course — You are off course the distance set in the 'Off Course' Alarm.

Lost Satellite Reception — The unit is unable to continue receiving satellite signals.

Near Proximity Point — You have reached the distance set for a proximity waypoint.

Proximity Memory Full — No additional proximity waypoints can be saved.

Proximity Radius Overlaps — The radius of two proximity waypoints overlap.

Route Already Exists — You have entered a route name that already exists.

Route Memory Full — No additional routes can be saved.

Route Truncated — Uploaded route from another device has more than 50 waypoints.

Route Waypoint Memory Full — No additional route waypoints can be saved.

Shallow Water — The water is shallower than the amount set in the Shallow Water Alarm.

Track Already Exists — A saved track with the same name already exists.

Track Memory Full — No more track data ca be stored without deleting old data.

Track Log Full — Indicates the track log is full and track recording has been turned off. To be able to record more track points you will need to clear the track log and turn track recording on. This will only be displayed when the track recording setting is set to 'Stop When Full".

Track Truncated — A complete uploaded track will not fit in memory. The oldest track log points have been deleted.

Cant Unlock Maps — No applicable unlock code for one or more maps was found. All MapSource map are not accessable.

Waypoint Already Exists — A waypoint with the same name already exists.

Waypoint Memory Full — The unit has stored the maximum number of waypoints.

Transfer Complete — Data transfer has been completed.

Loran TD System

LORAN C is a radio navigation aid operated and maintained in the United States by the United States Coast Guard. The name LORAN is an acronym for "LOng RAnge Navigation". The LORAN system covers the entire United States and the U.S. Coastal Confluence Zone. From the perspective of a mariner, the system is used for ocean and coastal navigation. It can be used as a supplemental system for harbor and harbor approach navigation, and it is used for inland navigation by recreational vehicles.

LORAN TD Feature

The LORAN TD (Time Delay) feature eases the transition from using LORAN to using GPS. The GPSMAP unit automatically converts GPS coordinates to LORAN TDs for those who have a collection of LORAN fixes for favorite fishing spots and other waypoints recorded as TDs. You can display your position as a TD or enter waypoints as TDs. The accuracy to be expected from this conversion is approximately thirty meters. When the unit is placed in the LORAN TD format mode, it simulates the operation of a LORAN receiver. Position coordinates may be displayed as TDs, and all navigation functions may be used as if the unit was actually receiving LORAN signals.

Using the LORAN TD Format

When creating new waypoints using LORAN TD coordinates, you must set the correct LORAN chain number and secondary stations in the Setup TD field before storing the waypoint. After the waypoint is stored in unit memory, it will always reference the LORAN chain number and secondary stations currently selected in the Setup TD field. If you enter a different LORAN chain number, change the secondary stations or offsets in the Setup TD field, the active waypoint information will reflect those changes. Since the GPSMAP unit does not rely on the LORAN signal for navigation, it can reference a different GRI chain and/or secondary stations and still navigate to the location stored in memory.

Appendix G

Loran TD

The LORAN Position Format field is located under the Units tab in the Main Menu. The 'LORAN TD Setup' window contains the fields to select the Loran GRI-Chain Number, Primary and Secondary Stations, and TD Offsets.

To setup Loran TD from the Main Menu:

1. Using the **ARROW KEYPAD**, highlight the "Units" tab and then the "Position Format" field press **ENTER/MARK**.
2. Highlight 'Loran TD', press **ENTER/MARK**, then highlight 'Setup' then press **ENTER/MARK**.
3. To change the settings of any of the five fields, highlight the field, press **ENTER/MARK**, select/enter the desired setting then press **ENTER/MARK**.
4. When done, press the **QUIT** key to return to the Main Menu.

To setup Loran TD from the Status Page:

1. Press **MENU**, then use the **ARROW KEYPAD**, highlight the 'Loran TD On' then press **ENTER/MARK**.
2. To change the settings of any of the five fields, highlight the field, press **ENTER/MARK**, select/enter the desired setting then press **ENTER/MARK**.
3. When done, press the **QUIT** key to return to the Status Page.

If the active GRI Chain, secondary stations or offsets have been changed since the waypoint was created, the waypoint will now reference the active GRI-chain and secondary stations and adjust the TD coordinates accordingly. Remember that the GPS is not relying on the LORAN signal for navigation and actually converts the TD coordinate to a useful LAT/LON coordinate before storing the waypoint to memory or using it for navigation. Because of this the unit can navigate to a TD coordinate anywhere in the world.

Standard Accessories

Owner' Manual
Part No. 190-00230-00

Quick Reference Guide
Part No. 190-00230-01

Lanyard
Part No. 013-00052-00
Provides convenient method for carrying the GPSMAP 76.

Optional Accessories

Automotive Mounting Bracket
Part No. 010-10305-00
Requires the Marine Mount Part No. 010-10300-00. This kit includes the mounting base, temporary and permanent adhesive pads and a new swivel bracket.

Marine Mount
Part No. 010-10300-00
The bracket can rotate 360° and tilt more than 45° backward or forward.

Carrying Case
Part No. 010-10117-01
Protects the GPSMAP 76 when not in use.

Power Data Cable
Part No.010-10082-00
Wiring harness can be used to hardwire the unit to auxiluary power and to interface with other NMEA devices.

PC Data Cable
Part No. 010-10141-00
Allows for serial data transfer with a PC.

Cigarette Lighter Adapter
Part No. 010-10085-00
Allows the GPSMAP 76 to operate for external auto power.

Remote Antenna
Part No. 010-10174-00

MapSource® Map Data CD-ROMs
Enhance the Basemap and Map Data, create waypoints and routes from your PC.

Appendix H

Accessories

Marine Mount

Automotive Mount

PC Cable

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Appendix J

Warranty

LIMITED WARRANTY

GARMIN Corporation warrants this product to be free from defects in materials and manufacture for one year from the date of purchase. GARMIN will, at its sole option, repair or replace any components that fail in normal use. Such repairs or replacement will be made at no charge to the customer for parts or labor. The customer is, however, responsible for any transportation costs. This warranty does not cover failures due to abuse, misuse, accident or unauthorized alteration or repairs.

THE WARRANTIES AND REMEDIES CONTAINED HEREIN ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED OR STATUTORY, INCLUDING ANY LIABILITY ARISING UNDER ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, STATUTORY OR OTHERWISE. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, WHICH MAY VARY FROM STATE TO STATE.

IN NO EVENT SHALL GARMIN BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING FROM THE USE, MISUSE, OR INABILITY TO USE THIS PRODUCT OR FROM DEFECTS IN THE PRODUCT. SOME STATES DO NOT ALLOW THE EXCLUSION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

To obtain warranty service, call the GARMIN Customer Service department (913-397-8200) for a returned merchandise tracking number. The unit should be securely packaged with the tracking number clearly marked on the outside of the package and sent freight prepaid and insured to a GARMIN warranty service station. A copy of the original sales receipt is required as the proof of purchase for warranty repairs. GARMIN retains the exclusive right to repair or replace the unit or software or offer a full refund of the purchase price at its sole discretion. SUCH REMEDY SHALL BE YOUR SOLE AND EXCLUSIVE REMEDY FOR ANY BREACH OF WARRANTY.

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